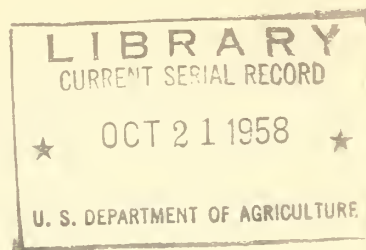


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COTTON fiber and processing properties as related to GRADES

AMS - 278

OCTOBER 1958

UNITED STATES DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service • Cotton Division • Washington, D.C.

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7 COTTON FIBER AND PROCESSING PROPERTIES
AS RELATED TO GRADES 7

The grades of American cotton are kept under continuous survey and study with a view to improving the classing of cotton, which is the practical application of the Universal Standards. This report, based on samples selected from the 1956 annual grade color survey, contains a detailed analysis of the results of fiber and processing tests of cotton selected at random from samples classed into the various grades. The tests were made at U. S. Department of Agriculture Laboratories at Clemson, S. C., Mesilla Park, N. Mex., and College Station, Tex. in 1957 and 1958.

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Report prepared in the Standards and Testing Branch
Cotton Division, AMS

The cotton industry has recognized through the years that grade and staple are only approximations of the spinning utility of cotton. Many of the variations inherent in natural cotton fibers and their classification are overcome by averaging. Cotton is usually bought and sold in marketing channels in 50 to 100 bale lots of the same grade and staple length and a number of bales are normally mixed in the opening room of cotton mills.

Laboratory measurements, used widely in research and to a limited extent in commercial channels, supplement grade and staple length by further segregating cotton into more uniform lots having specific fiber characteristics. The Measurements have not, however, developed to the point that they show promise of replacing the cotton classer in the near future. Cotton is still bought and sold on the basis of grade and staple length. It is important, therefore, that efforts to increase the effectiveness of cotton classing be continued by improving the standards and their applications. USDA hopes that the results of this survey will contribute to progress in this direction by providing a better understanding of the standards and their application in the classing of cotton.

While the standards for grade purport to represent only the various degrees of color, trash and preparation, the cotton industry has recognized for a long time that there are other significant factors in the processing and use of cotton which are associated in a general way with the various grades. The heavy price discounts for the lower grades of cotton are indicative of deficiencies in most low grade cottons other than those represented by color, leaf, and preparation. This report undertakes to show by averages the relationship of various measures of fiber and processing properties to the different grades, and by ranges the extremes in the fiber properties in each grade classification for the 1956 crop (tables 1 through 5). The report also provides supplementary information to the annual cotton quality studies by presenting quality evaluations on a wide range of grades and staple lengths instead of being limited to modal qualities as previously published. ^{1/} The wide variation in fiber properties within each grade included in this report reduces in most instances the significance of the differences between the grade averages. Some of the trends found in the averages of the data in the statistical tables, however, are noted in the following paragraphs:

WHITE GRADES

Length. Cotton classed into the higher White grades in 1956 averaged longer than that in the lower grades as measured by the classer (fig. 1). The average Fibrograph upper half mean length was also longer for the higher grades than for the lower grades, but the relationship was less pronounced than it was for the classers' length (fig. 2). The fiber length as indicated by the Fibrograph was also less uniform in the lower grades than it was in the higher grades.

Micronaire. Fineness as measured by the Micronaire averaged much higher in the higher grades than in the lower grades. But fluctuations in Micronaire values for different cottons of the same grade were wide, and a high grade cotton is certainly no positive assurance of high Micronaire reading (fig. 3).

Strength. Average fiber strength index (1/8-inch gauge) for the White grades declined slightly as grade decreased (fig. 4). Fiber strength for cottons in each grade varied considerably but was more uniform within each grade than for the other properties measured.

Nonlint Content. Trash is, of course, a grade factor and the Shirley Analyzer nonlint measurements increased from the high to the low grades. The average percentage of nonlint content was less for cotton classed into the various grades of the 1956 crop than was found in earlier years. This was particularly true in the grades below Strict Low Middling (fig. 5).

^{1/} Summary of Fiber and Processing Test Results for Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1956. U.S. Dept. of Agri., AMS. AIB No. 170. March 1957.

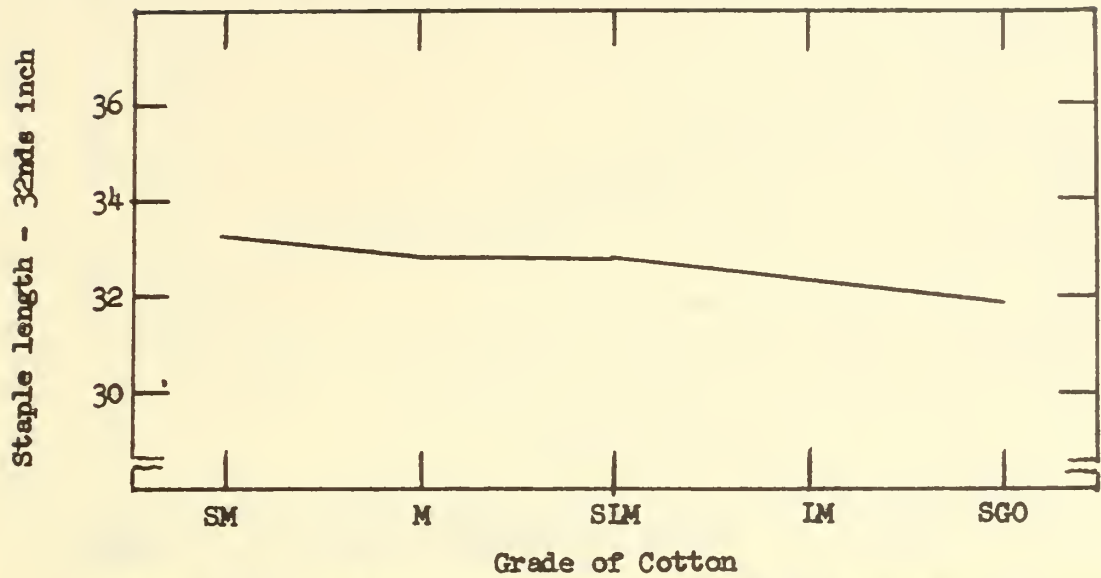


Figure 1.--Relationship between grade and average staple length, crop of 1956

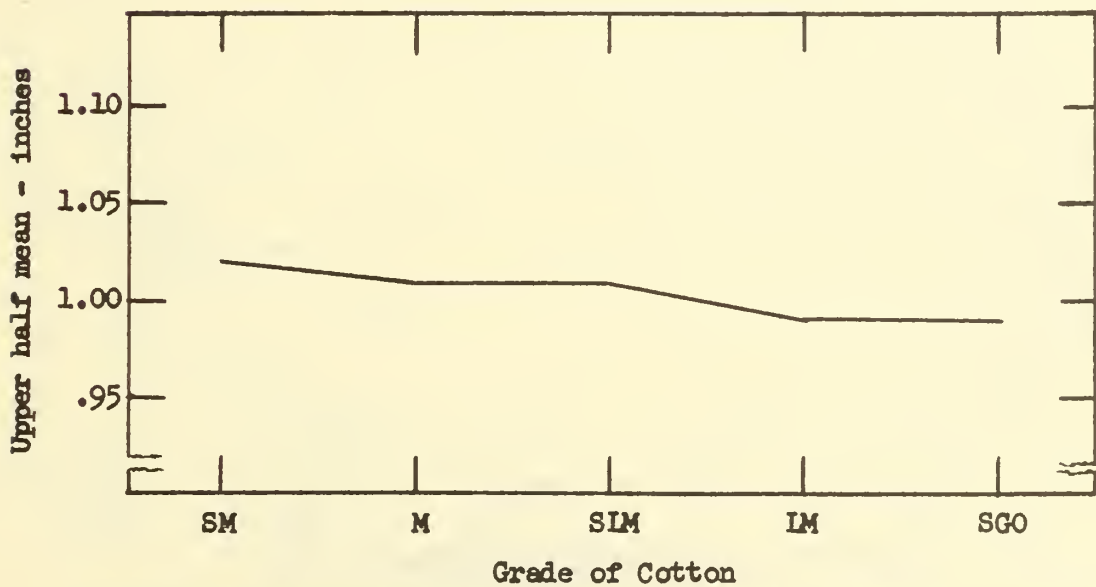


Figure 2.--Relationship between grade and average Fibrograph upper half mean, crop of 1956

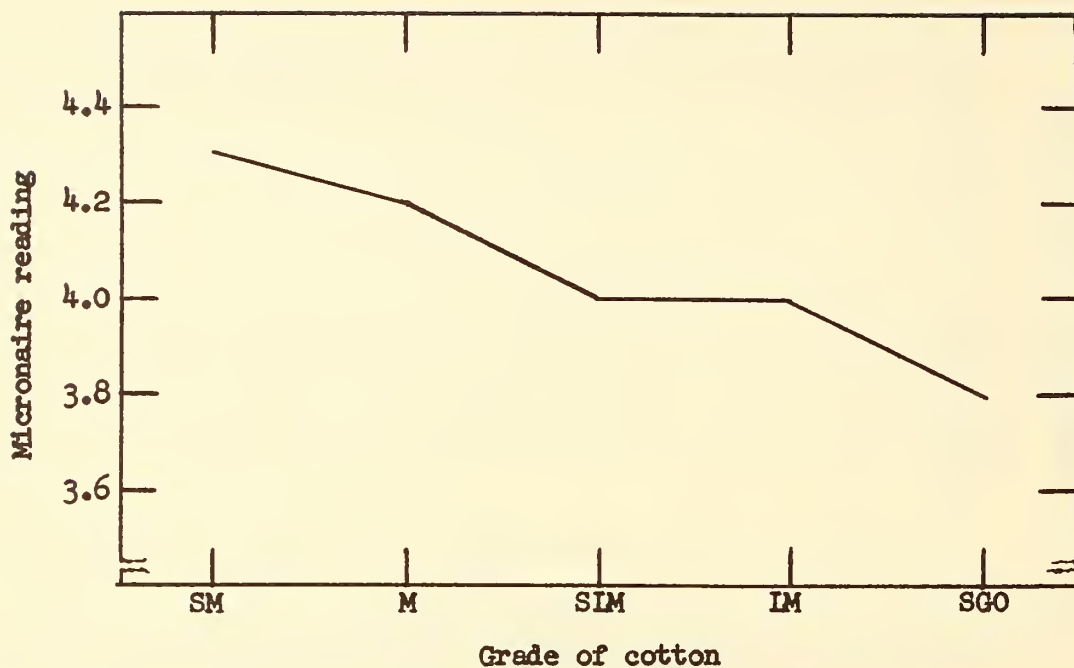


Figure 3.--Relationship between grade and average Micronaire value, crop of 1956

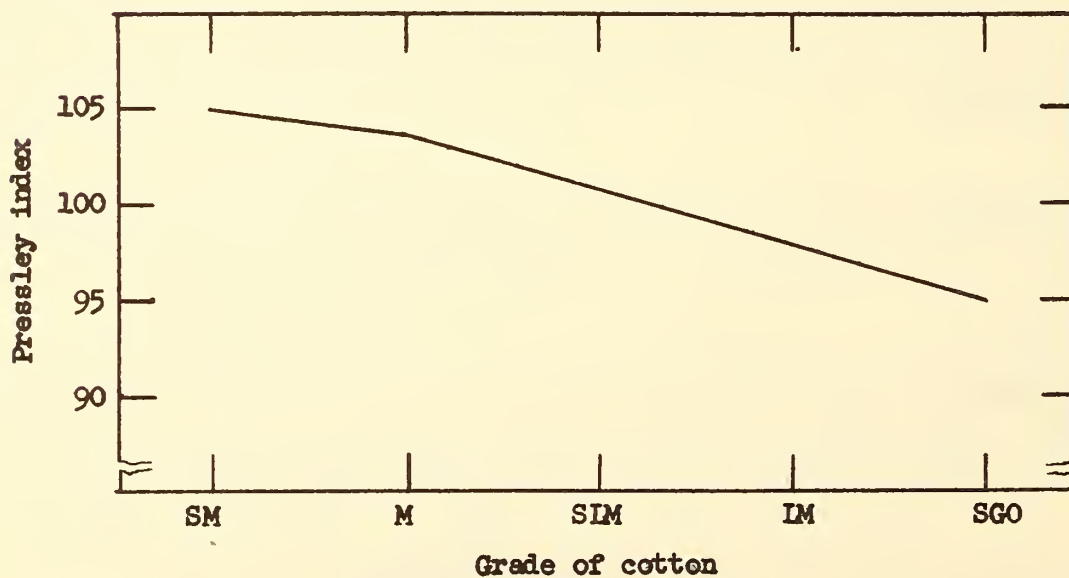


Figure 4.--Relationship between grade and average Pressley strength index (1/8 inch gauge), crop of 1956

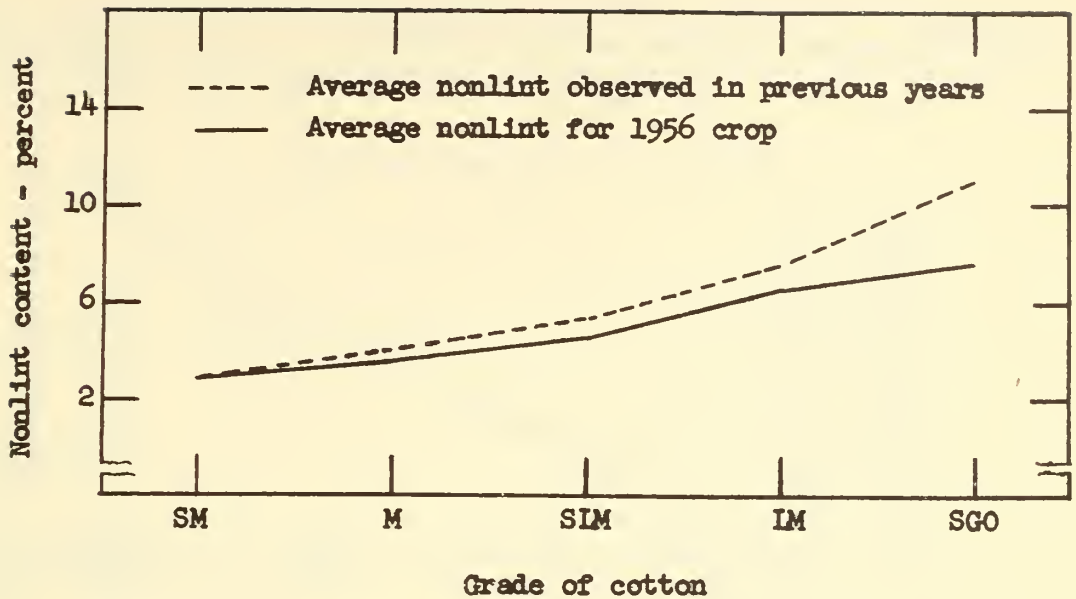


Figure 5.--Relationship between grade and average nonlint content, crop of 1956

Picker and Card Waste. Average picker and card waste increased from 7.0 percent for Strict Middling to 10.8 percent for Low Middling cotton (fig. 6). These values reflect a combination of foreign matter and wasty fiber since both of these waste materials are removed by the picking and carding machines.

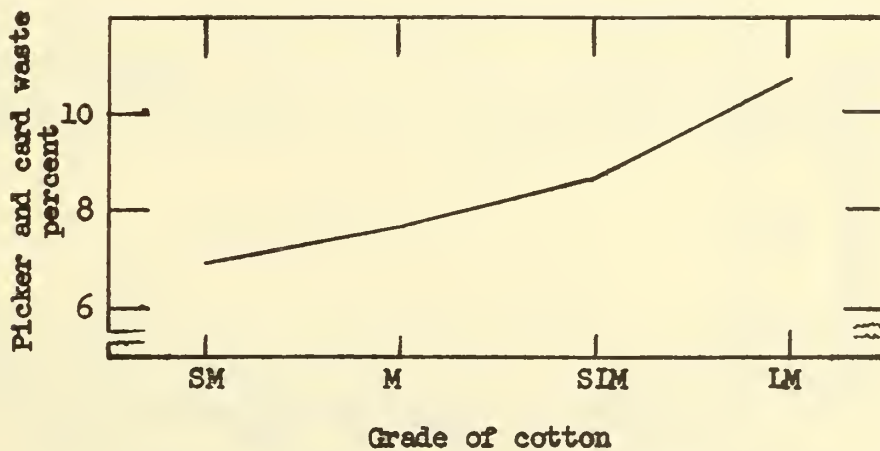


Figure 6.--Relationship between average grade of cotton and picker and card waste, crop of 1956

Neps. The average number of neps per 100 square inches of card web tends to increase as grade decreases (fig. 7).

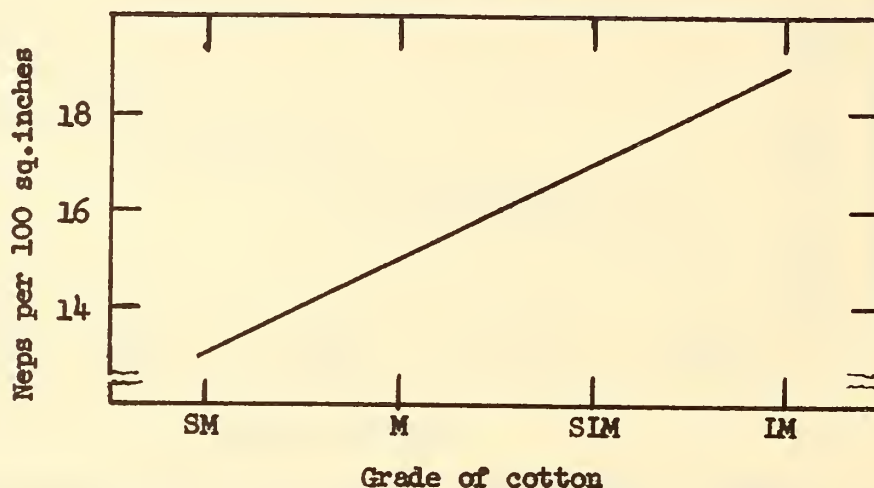


Figure 7.--Relationship between average grade and neps per 100 sq. in. of card web, crop of 1956

Yarn Appearance. The average yarn appearance index declined appreciably as the grade decreased. The average for cotton classed as Strict Middling was 105 and for Low Middling 95 (fig. 8).

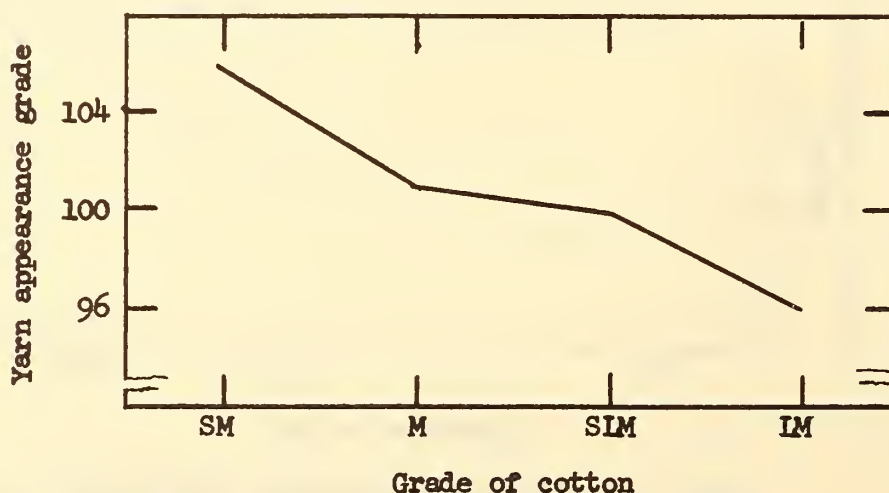


Figure 8.--Relationship between average grade of cotton yarn appearance, crop of 1956

Yarn strength. Yarn skein strength of 22s yarn decreased only slightly with decreasing grades. For Strict Middling and Middling the strength of 22s yarn averaged approximately 116 pounds against 110 pounds for Low Middling (fig. 9).

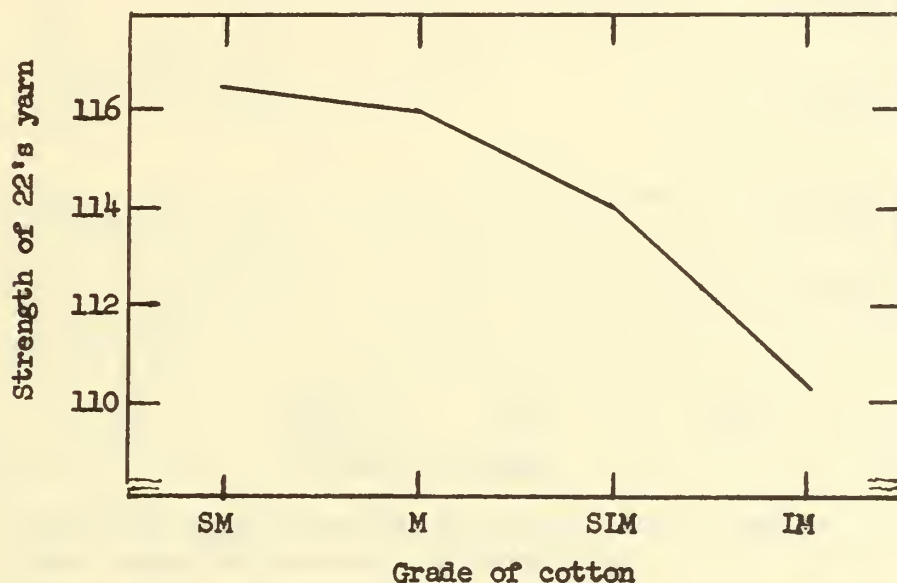


Figure 9.--Relationship between average grade of cotton and strength of 22s yarn, crop of 1956

Finishing Properties. The color index of yarns made from different grades of cotton in 1956 measured in the grey, and dyed (after bleaching) declined sharply and consistently with successive decreases in grade (figs. 10 and 11).

COLORED AND SPLIT GRADES

The results observed for the different grades of the 1956 crop reported in this survey relate mainly to cotton classed into the White grades of the Universal Standards which comprised 81 percent of the 1956 crop. Colored cottons along with the split grades, however, constitute a considerable part of the crop and in some areas a very substantial portion. The volume of samples of these cottons in the 1956 survey, however, was not sufficient to provide complete information such as that present for the White grades.

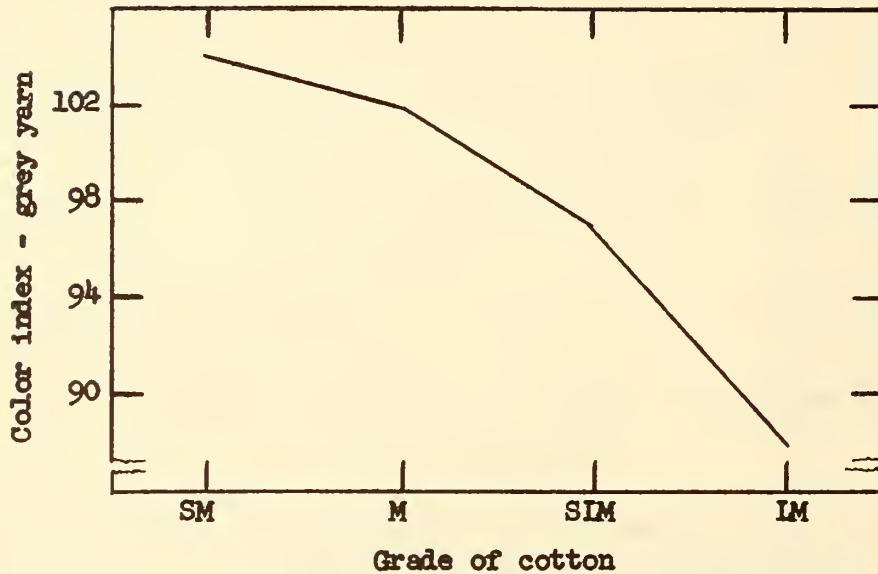


Figure 10.--Relationship between average grade of cotton and grey yarn color index, crop of 1956

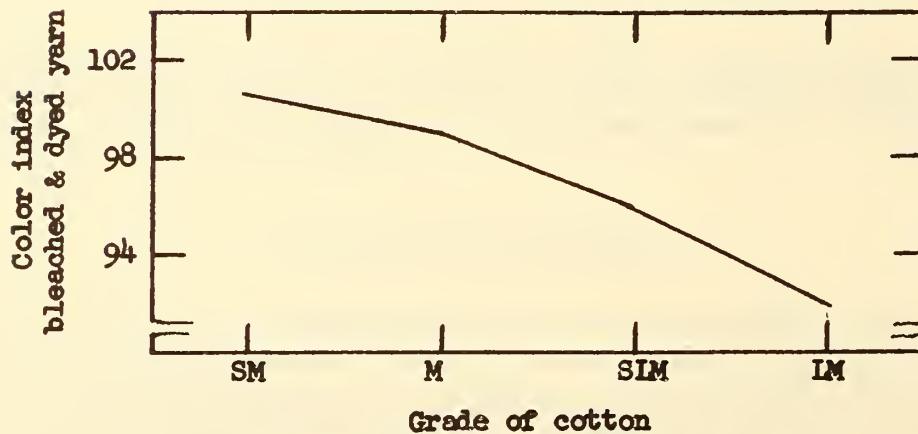


Figure 11.--Relationship between average grade of cotton and color index of yarns dyed after bleaching, crop of 1956

Cotton of the colored grades constituted the following percentages of the 1956 crop:

<u>Color</u>	<u>Percent</u>
Spotted	16.8
Tinged	.2
Yellow stained	*
Gray	1.4

* Less than 0.5 percent

Spotted Cotton. The various grades of spotted cotton are defined as having more "spot or color or both" than the corresponding White grade and less than tinged. Although not a part of the Universal Standards, spotted cotton is also described in terms of the split grade "light spotted". Light spotted grades refer to cotton having "only slightly more spot or yellowish color or both" than the corresponding White grade.

Both spotted and light spotted cotton showed the same general tendency of diminishing fiber and spinning quality with decreases in grade as did the White grades. Cotton classed into the spotted and light spotted grades generally had fiber properties and spinning and finishing characteristics inferior to the corresponding White grades. Although the light spotted cottons showed a higher level of spinning and finishing properties than the spotted grades, neither the spotted or light spotted cottons were equal to the corresponding White grades in spinning and finishing performance.

Tinged and Yellow Stained. The quantity of tinged and yellow stained cotton was so small that the few scattered samples included in the survey were inadequate for making any general conclusions.

Gray. Gray cotton has been described as "lower grade cotton with the trash removed". Gray cotton is defined in the standards as having leaf of the grade named but with color no darker than three grades below this grade; e. g. Middling Gray has leaf of Middling but color no darker than the color of Strict Good Ordinary. Gray cotton described as "light gray" is cotton that has "only slightly more grayish color", usually interpreted as being color no darker than two grades below the grade named for leaf; e.g. SM Light Gray has leaf of Strict Middling and color no darker than that of Strict Low Middling.

Cotton from the 1956 crop classed into both gray and light gray categories, were generally inferior to the corresponding White grades. Even for nonlint content and picker and card waste, the gray cottons were down the equivalent of one or two grades. For example, Middling Gray cottons generally had a nonlint content comparable to that reported for Strict Low Middling White or lower. Other fiber properties averaged on a level with that of Low Middling or Strict Good Ordinary.

Light gray and gray cottons were also on a lower level than the White grades in spinning performance, while the finishing tests on these cottons were decidedly inferior. For example, Middling Light Gray cottons produced spinning quality results on about the same level as that of Strict Low Middling White cottons. The finishing tests, however, were approximately equivalent to that reported for Low Middling cottons, or almost two full grades lower than the corresponding White grade designations.

"Plus" Grades. In using the grade standards it is permissible to describe White cotton in split grades just as spotted and gray cottons are split. For example, Middling White cotton having Strict Middling color and Middling leaf and preparation may be classed as Middling plus. Cottons classed into the split grade "plus" were in most instances slightly superior in fiber properties to cottons of the base White grade. Generally the "plus" grades had fiber properties that fell between the base grade and the next higher grade. For example, the average fiber properties for Middling plus were generally above those of Middling but below average for Strict Middling. The average staple length for "plus" cotton was almost equal to that of the next higher grade.

There was considerable improvement in spinning performance over the base grade for plus cotton. Finishing test results of these cottons indicated that for the most part they were comparable in bleaching and dyeing properties to the next higher grade, which they matched in color. For example, Middling plus cottons bleached and dyed at about the same level as Strict Middling cottons.

Micronaire Fineness. Where sufficient amounts of cotton of the same grade and staple length were available, the samples were divided into two or more spinning lots by Micronaire fineness readings. The samples were separated by taking the average Micronaire reading for the entire lot of cotton and then separating the individual samples into two lots. One lot contained those samples in which the Micronaire readings were higher than the average of all the samples, or the upper half of the grade and staple length category. The remainder of the samples were those falling below the average Micronaire reading of the entire lot of cotton, or the lower half of the grade and staple length category. Sixteen paired lots of cotton in this category had fineness readings designated as "above average fineness" and "below average fineness". This division of samples facilitates studies of the effect of Micronaire fineness values on processing and chemical finishing performance for cottons which are otherwise comparable in fiber properties (table 6). Cottons designated as "below average Micronaire value" had an average Micronaire reading of 3.8, and those classified as "above average Micronaire value" had an average Micronaire reading of 4.6. These figures are merely average Micronaire readings for the spinning lots included in this report, and should not be taken to infer that the spinning test results on the "low average Micronaire reading" group would apply to the entire crop. Although a Micronaire reading of 3.8 reflects a considerable degree of immaturity for most cottons, there are certain varieties, particularly in the long staple uplands of the Western area, in which an average Micronaire reading of 3.8 might be highly desirable and represent fairly mature cottons.

In reviewing the spinning and finishing test results on these samples, several striking differences were noted which may be attributed directly to the influence of the fineness and maturity value as reflected in the Micronaire readings. In general, cottons having a low Micronaire value, were also low in maturity value. Below-average Micronaire readings also produced a higher nep count and a correspondingly lower yarn appearance grade than that of a high Micronaire cottons. Although the fiber strength of all of these cottons averaged approximately the same, the yarn strength of the cottons below average in Micronaire value were consistently higher than the strength of yarn for the above-average Micronaire cottons. The color index readings of the grey yarns, bleached yarns, and yarns dyed after bleaching apparently were not significantly affected by Micronaire fineness.

PROCEDURES

Source of Samples. The annual grade color survey samples collected throughout the ginning season by each of the various cotton classing offices of the Cotton Division participating in the Smith-Doxey classing program were used for testing in connection with this study. These samples consisted of three classers' samples typical of each grade classed by each classing office during bi-weekly intervals, and were collected and submitted for color measurements throughout the season. After making the color readings, the samples were forwarded to the fiber laboratories for fiber tests. The location and territory served by each classing office participating in the Smith-Doxey program during 1956 are shown in figure 12.

Fiber testing Procedure. Fiber tests of individual samples were made under standard atmospheric conditions of 65 ± 2 percent relative humidity and $70^\circ \pm 2^\circ$ F. These tests included measurements on unblended cotton for length, length uniformity, tensile strength, fineness and maturity in combination as measured by the Micronaire, soluble sugar content and acid-alkalinity (pH) value. 2/

Colormeter grade designations were obtained by comparing the color readings of the individual samples with the color measurements obtained for the cottons in the official grade standards. A color diagram from which these comparisons were made is shown in figure 13. In addition to these measurements, approximately five samples of each grade from each classing office territory were selected for nonlint content determination by the Shirley Analyzer method.

Reporting Fiber Test Results. In reporting the averages and ranges of fiber properties within the various grades of cotton, only those grades in which at least nine samples were tested are reported in the tables. This was done in the interest of maintaining a degree of reliability in the averages and ranges reported for the grades, and does not mean that no grades other than those reported were classed at a particular classing office.

SMITH-DOXEY COTTON CLASSING OFFICES

Location and Territory Served

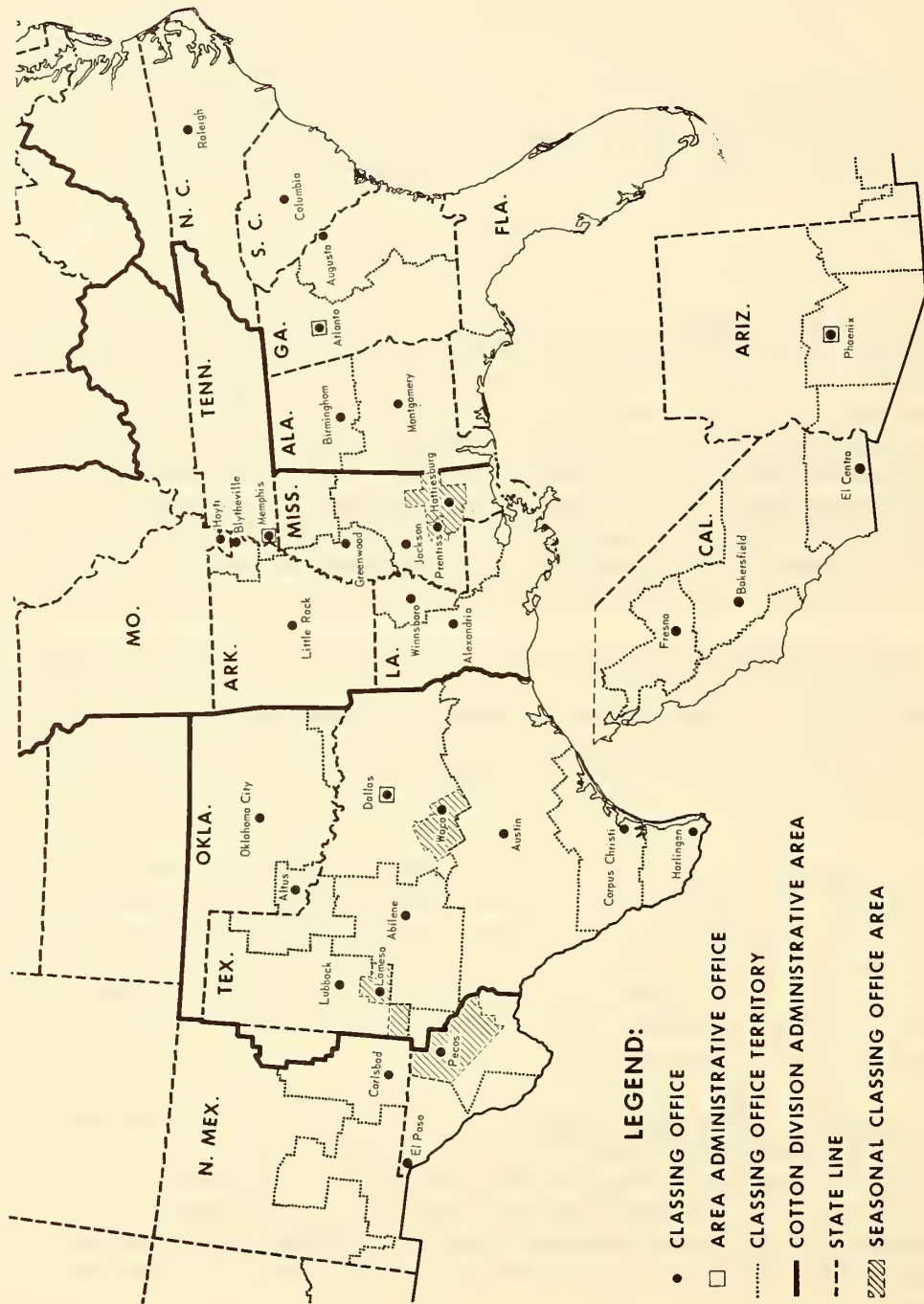


Figure 12.

Figure 12.--COLOR DIAGRAM FOR NICKERSON-HUNTER COTTON COLORIMETER illustrating the relationship between color measurements (R_d and b) and equivalent grade color (in terms of the Universal Standards for Grade of American Upland Cotton).

The averages and ranges of fiber properties within each grade by classing office territories are reported in tables 1 through 4. The reliability of the values reported for the mean and range for the various fiber properties within a particular grade is governed to a great extent by the number of samples tested. Also, the majority of the samples within a particular grade category falls within a few units of the average reported for each of the fiber properties, depending upon the distribution of the measurements, and the ranges represent the extreme values found within each grade.

Compositing Spinning Lots. Upon completion of the fiber tests on each individual sample, the samples were combined into even running lots of the same grade and staple length for spinning tests. In order to obtain a sufficient number of samples required for spinning tests it was necessary to combine the samples on a geographical area basis. These areas included the following classing office territories:

Southeastern Area

Raleigh, North Carolina	Columbus, South Carolina
Atlanta, Georgia	Montgomery, Alabama
Augusta, Georgia	Birmingham, Alabama

South Central Area

Memphis, Tennessee	Hayti, Missouri
Greenwood, Mississippi	Blytheville, Arkansas
*Hattiesburg, Mississippi	Little Rock, Arkansas
Jackson, Mississippi	Alexandria, Louisiana
*Prentiss, Mississippi	Winnsboro, Louisiana

Southwestern Area

Altus, Oklahoma	Dallas, Texas
Oklahoma City, Oklahoma	Harlingen, Texas
Abilene, Texas	Lubbock, Texas
Austin, Texas	*Waco, Texas
Corpus Christi, Texas	

Western Area

El Paso, Texas	Bakersfield, California
*Pecos, Texas	El Centro, California
Carlsbad, New Mexico	Fresno, California
Phoenix, Arizona	

* Seasonal offices.

Spinning Test Procedures. The spinning tests in this study were made by a standardized technique developed in the laboratories of the Cotton Division for testing small samples. Each lot was passed through standard-type textile machines. The mixing of cotton in this procedure is comparable to the usual commercial manufacturing that employs a similar machine organization.

For the purpose of this study all lots of cotton except those from the Southwestern area were carded at a standard rate of 9-1/2 pounds per hour and spun into 22s and 50s carded yarns. The lots from the Southwestern area, being shorter in staple length, were carded at 12-1/2 pounds per hour and were spun into carded 8s and 22s yarns. This procedure conforms with commercial mill carding practices for this type of cotton. The spinning tests were conducted on the same basis as the spinning tests published in previous reports of the Cotton Division. 3/ Comparisons may be made directly with those lots having the same machine organization and carding rate. The same adjective descriptions of "benchmarks" used in interpreting the spinning test results published in the previous quality reports also apply to the test results in this report.

In order to compare differences in processing between grades within an area directly, only those spinning lots having the same staple length were selected for testing. Spinning tests on a wider range of grades and staple lengths were not made, because there was not enough cotton to make up the desired spinning lots. Where adequate samples were available in a particular grade and staple length category, the samples were segregated into two or more lots having approximately the same fiber properties other than Micronaire value. This method of dividing the samples provides an indication of the effect of Micronaire measurements on the processing performance of a group of cottons which were otherwise fairly comparable in fiber properties.

Processing and chemical finishing test results on the composited spinning lots by geographical areas are reported in table 5. Although restricted in range of grades and number of spinning tests, it appears that the results of the 67 lots herein reported are typical of the areas from which the samples were taken and of their respective grades for the 1956 cotton crop.

3/ Summary of Fiber and Processing Test Results for Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1957. U. S. Dept. of Agri., AMS. AIB No. 186. March 1958.

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956

Item		Raleigh, North Carolina									
Grade-----	SM	M	SIM	LM	SGO	GO	M+	SIM+			
Number of samples-----	13	34	39	42	30	23	11	37			
Staple length (32nd inch):											
Average-----	34.3	33.3	33.5	33.2	32.7	32.0	33.7	33.6			
Range-----	33 - 36	32 - 36	32 - 35	32 - 36	30 - 35	31 - 33	33 - 34	32 - 35			
Fiber length (Fibrograph)											
Upper half mean (inches):											
Average-----	1.07	1.03	1.05	1.01	.98	.95	1.04	1.05			
Range-----	1.02 - 1.14	.95 - 1.10	.96 - 1.12	.92 - 1.08	.93 - 1.07	.87 - 1.02	.94 - 1.10	.96 - 1.10			
Uniformity ratio:											
Average-----	80	80	79	79	76	74	80	80			
Range-----	77 - 86	77 - 84	75 - 86	75 - 83	71 - 81	69 - 80	76 - 83	76 - 86			
Micronaire reading: <u>1</u> /											
Average-----	4.2	4.3	4.0	4.2	4.1	4.1	4.2	4.0			
Range-----	3.6 - 4.6	3.6 - 5.2	3.2 - 4.6	3.5 - 4.7	3.7 - 4.9	3.4 - 4.6	3.6 - 5.0	3.2 - 4.8			
Fiber tensile strength (Pressley)											
<u>1</u> /8" Gauge (index): <u>2</u> /											
Average-----	99	101	97	92	89	86	99	100			
Range-----	90 - 119	91 - 115	85 - 107	78 - 102	82 - 100	81 - 94	91 - 113	90 - 112			
Colorimeter grade designation: <u>3</u> /											
Average-----	M+	M	SIM	LM-	SGO	GO	M-	SIM+			
Range-----	SM - M	SM - SIM	M - LM	LM - SGO	SGO - GO	SGO - BG	M - SIM	M - SIM			
Sugar content (percent):											
Average-----	0.1	0.1	0.1	*	*	*	0.1	0.1			
Range-----	0.0 - 0.3	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.1	0.0 - 0.1	0.0 - 0.2	0.0 - 0.2			
Acid-alkalinity value (pH units):											
Average-----	7.6	7.8	8.1	8.1	7.7	7.3	7.7	7.8			
Range-----	7.0 - 8.5	6.8 - 9.0	7.2 - 9.0	7.4 - 9.0	6.6 - 8.5	6.9 - 8.0	6.8 - 8.2	7.1 - 8.9			
Nonlint content (Shirley Analyzer):											
Number of samples-----	5	6	5	5	5	5	6	4			
Average-----	1.9	3.0	3.5	3.6	6.1	7.8	2.1	3.4			
Range-----	1.2 - 3.3	1.8 - 6.1	2.7 - 4.5	2.8 - 4.2	5.0 - 6.5	6.2 - 8.9	1.8 - 2.5	3.0 - 4.2			

* Less than 0.05 percent.

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Continued on page 17

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Raleigh, North Carolina - Continued										
Item	IM+	Msp	SIMsp	IMsp	SMltsp	Mltsp	SIMltsp	IMltsp		
Grade-----										
Number of samples-----	22	12	9	12	10	18	19	11		
Staple length (32nd inch):										
Average-----	33.6	32.4	32.2	31.5	32.9	32.8	32.8	32.6		
Range-----	32 - 35	30 - 34	30 - 33	30 - 33	32 - 34	32 - 34	31 - 34	32 - 33		
Fiber length (Fibroglyph)										
Upper half mean (inches):										
Average-----	1.03	.95	.96	.96	.97	.98	.98	.97		
Range-----	.96 - 1.10	.88 - 1.07	.88 - 1.07	.89 - 1.02	.90 - 1.08	.86 - 1.06	.90 - 1.07	.90 - 1.01		
Uniformity ratio:										
Average-----	79	80	78	74	80	80	78	76		
Range-----	73 - 82	77 - 82	74 - 80	72 - 79	78 - 83	77 - 84	68 - 85	70 - 80		
Micronaire reading: 1/										
Average-----	4.1	4.6	4.3	4.3	4.4	4.4	4.3	4.1		
Range-----	3.3 - 4.8	4.3 - 4.8	3.4 - 4.7	3.8 - 4.8	4.2 - 5.0	3.9 - 4.9	3.4 - 4.8	3.5 - 4.6		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	98	97	97	87	99	97	94	91		
Range-----	87 - 105	89 - 106	92 - 104	77 - 94	91 - 106	86 - 105	79 - 107	83 - 95		
Colorimeter grade designation: 3/										
Average-----	IM+	SIMltsp	IMltsp	Below IMsp	Mltsp	SIM	IM	SGO+		
Range-----	STM - IM	M - SIMsp	SIMsp - BG	SGO - BG	SM - Msp	M - SIM	SIM - IMsp	IM - SGO		
Sugar content (percent):										
Average-----	*	0.1	*	*	0.1	*	*	*		
Range-----	0.0 - 0.1	0.0 - 0.2	0.0 - 0.2	0.0 - 0.1	0.0 - 0.3	0.0 - 0.2	0.0 - 0.1	0.0 - 0.1		
Acid-alkalinity value (pH units):										
Average-----	8.0	8.1	7.8	7.2	7.9	8.1	8.0	7.8		
Range-----	7.3 - 9.0	7.4 - 9.0	7.0 - 8.2	6.5 - 7.9	7.4 - 8.5	7.3 - 9.0	7.1 - 9.4	7.2 - 8.3		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	4	5	3	5	5	4		
Average-----	5.1	3.3	3.6	5.0	2.7	2.5	4.4	4.9		
Range-----	4.4 - 5.7	2.4 - 4.0	2.8 - 4.9	3.7 - 5.6	2.2 - 3.1	2.1 - 3.0	2.6 - 5.9	4.7 - 5.2		

* Less than 0.05 percent.

1/ Fiber fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Continued on page 18

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued.

Item	Raleigh, North Carolina, Continued					Columbia, South Carolina				
	Mgr	SDMgr	SMTgr	Mtgr	STMTgr	SM	M	SIM		
Grade-----										
Number of samples-----	24	29	12	20	21	23	33	27		
Staple length (32nd inch):										
Average-----	33.1	32.8	33.6	33.0	32.7	33.3	33.3	33.2		
Range-----	32 - 35	31 - 34	32 - 34	32 - 34	32 - 34	33 - 34	32 - 35	32 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	.98	.98	1.01	.98	.97	1.01	1.02	1.03		
Range-----	.90 - 1.09	.90 - 1.10	.93 - 1.05	.94 - 1.06	.90 - 1.02	.92 - 1.08	.94 - 1.00	.97 - 1.08		
Uniformity ratio:										
Average-----	77	76	78	78	76	80	81	80		
Range-----	73 - 83	72 - 82	74 - 82	75 - 82	72 - 80	76 - 84	77 - 85	77 - 84		
Micronaire reading: $\frac{1}{1}$										
Average-----	4.2	4.1	4.2	4.1	4.0	4.6	4.6	4.3		
Range-----	3.6 - 4.8	3.2 - 4.6	3.6 - 4.9	3.4 - 4.8	3.4 - 4.4	4.0 - 5.1	3.8 - 5.2	3.3 - 5.0		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): $\frac{2}{2}$										
Average-----	92	90	94	92	91	100	101	99		
Range-----	86 - 105	79 - 106	87 - 102	86 - 95	85 - 97	92 - 111	94 - 112	91 - 109		
Colorimeter grade designation: $\frac{3}{3}$										
Average-----	SGO	GO+	IM+	IM	SGO	M+	M	SIM		
Range-----	LM - GO	SGO - BG	SIM - SGO	LM - SGO	all SGO	SM - M	SM - SIM	M - IM		
Sugar content (percent):										
Average-----	*	*	*	*	*	0.1	0.1	0.1		
Range-----	C.0 - 0.1	0.0 - 0.1	0.0 - 0.1	all 0.0	0.0 - 0.1	0.0 - 0.5	0.0 - 0.3	0.0 - 0.3		
Acid-alkalinity value (pH units):										
Average-----	7.7	7.8	7.9	8.0	7.9	7.7	7.7	8.0		
Range-----	7.3 - 8.3	7.1 - 8.6	7.4 - 8.9	7.4 - 8.4	7.2 - 8.9	7.0 - 9.0	6.8 - 9.0	7.0 - 9.0		
Nonlint content (Shirley Analyzer):										
Number of samples-----	4	5	5	4	5	5	4	5		
Average-----	4.7	5.0	2.3	3.2	4.4	1.6	2.0	3.8		
Range-----	2.3 - 10.0	3.7 - 6.6	1.6 - 3.0	2.7 - 3.8	4.0 - 4.9	1.4 - 1.7	1.5 - 2.9	2.2 - 5.1		

* Less than 0.05 percent.

$\frac{1}{1}$ / Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

$\frac{2}{2}$ / Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

$\frac{3}{3}$ / This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

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Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Columbia, South Carolina - Continued										
Item	LM	SGO	M+	SLM+	LM+	SMsp	Msp	SMtop		
Grade-----										
Number of samples-----	25	13	20	23	17	9	18	15		
Staple length (32nd inch):										
Average-----	32.5	32.4	33.6	33.5	33.3	32.6	32.6	33.1		
Range-----	30 - 34	32 - 33	32 - 36	33 - 36	32 - 34	32 - 33	31 - 34	32 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	1.01	.99	1.06	1.05	1.03	1.00	1.00	1.02		
Range-----	.95 - 1.07	.94 - 1.05	.94 - 1.22	.99 - 1.09	.94 - 1.06	.95 - 1.07	.95 - 1.06	.96 - 1.24		
Uniformity ratio:										
Average-----	78	77	81	80	79	79	79	79		
Range-----	74 - 82	73 - 80	77 - 85	77 - 83	76 - 83	76 - 82	74 - 82	74 - 83		
Micronaire reading: <u>1/</u>										
Average-----	4.1	4.1	4.3	4.2	4.2	4.3	4.6	4.3		
Range-----	2.8 - 5.0	2.8 - 4.8	3.6 - 5.0	3.5 - 4.9	3.2 - 4.8	4.0 - 4.6	4.0 - 5.1	3.4 - 4.8		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): <u>2/</u>										
Average-----	97	95	103	102	99	100	100	103		
Range-----	87 - 105	87 - 102	96 - 114	96 - 114	90 - 107	92 - 109	92 - 107	94 - 119		
Colorimeter grade designation: <u>3/</u>										
Average-----	LM	SGO	M+	M-	SIM-	Mtsp	Msp	M		
Range-----	SIM - SGO	all SGO	GM - M	M - SIM	SIM - IM	SMsp - Msp	M - SIMsp	M - SIM		
Sugar content (percent):										
Average-----	*	*	0.1	0.1	0.0	0.1	0.1	0.1		
Range-----	0.0 - 0.2	0.0 - 0.1	0.0 - 0.2	0.0 - 0.3	0.0 - 0.2	0.0 - 0.2	0.0 - 0.3	0.0 - 0.2		
Acid-alkalinity value (pH units):										
Average-----	7.8	7.7	7.7	7.8	8.3	7.9	8.0	7.7		
Range-----	7.0 - 9.0	7.3 - 8.1	6.8 - 9.0	6.6 - 9.0	7.4 - 9.0	7.2 - 8.5	6.8 - 9.0	7.0 - 8.5		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	4	5	5	5		
Average-----	5.0	5.6	1.9	3.2	4.1	3.1	3.5	2.9		
Range-----	4.1 - 5.8	5.1 - 7.2	1.4 - 2.5	2.6 - 4.7	3.8 - 4.4	2.1 - 3.6	2.7 - 4.8	1.5 - 4.5		

* Less than 0.05 percent.

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Continued on page 20

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Item	Columbia, South Carolina - Continued										Atlanta, Georgia		
	Mtsp	SIMtsp	Mgr	SIMgr	Mtgr	SIMgr	Mtgr	SM	M	SIM			
Grade-----	23	18	11	11	18	11	18	23	45	44			
Number of samples-----													
Staple length (32nd inch):													
Average-----	33.0	32.3	32.5	32.5	32.6	32.5	32.6	33.3	32.9	32.8			
Range-----	31 - 34	31 - 34	32 - 33	32 - 33	31 - 33	32 - 33	31 - 33	33 - 34	32 - 34	31 - 33			
Fiber length (Fibrogaph)													
Upper half mean (inches):													
Average-----	1.00	.98	1.02	1.01	.98	1.01	.98	1.03	1.04	1.02			
Range-----	.92 - 1.10	.90 - 1.10	.98 - 1.05	.93 - 1.06	.92 - 1.04	.93 - 1.06	.92 - 1.04	.96 - 1.10	.98 - 1.13	.94 - 1.09			
Uniformity ratio:													
Average-----	79	79	79	77	79	77	79	80	80	78			
Range-----	75 - 83	74 - 84	78 - 81	75 - 80	75 - 82	75 - 80	75 - 82	76 - 82	76 - 87	73 - 82			
Micronaire reading: 1/													
Average-----	4.5	4.2	4.2	4.2	4.5	4.2	4.5	4.3	4.2	4.0			
Range-----	3.8 - 5.0	3.7 - 4.8	3.2 - 4.6	3.8 - 4.6	4.0 - 4.9	3.8 - 4.6	4.0 - 4.9	3.4 - 4.9	3.2 - 5.1	3.1 - 4.8			
Fiber tensile strength (Pressley)													
1/8" Gauge (index): 2/													
Average-----	99	101	95	97	97	97	97	100	98	95			
Range-----	91 - 115	92 - 112	88 - 105	89 - 105	87 - 112	89 - 105	87 - 112	92 - 108	88 - 108	80 - 104			
Colorimeter grade designation: 3/													
Average-----													
Range-----													
Sugar content (percent):													
Average-----	0.1	*	0.1	*	0.1	*	0.1	0.2	0.2	0.1			
Range-----	0.0 - 0.3	0.0 - 0.2	0.0 - 0.2	0.0 - 0.1	0.0 - 0.3	0.0 - 0.1	0.0 - 0.3	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5			
Acid-alkalinity value (pH units):													
Average-----	7.7	7.9	8.3	8.1	8.1	8.1	8.1	7.2	7.4	7.8			
Range-----	7.0 - 9.0	6.9 - 9.0	7.4 - 9.0	7.3 - 9.0	7.5 - 8.6	7.3 - 9.0	7.5 - 8.6	6.5 - 8.0	6.7 - 8.5	6.9 - 9.0			
Nonlint content (Shirley Analyzer):													
Number of samples-----	5	5	5	5	5	5	5	5	5	5			
Average-----	2.8	4.6	3.6	4.4	2.7	4.4	2.7	1.8	2.7	3.8			
Range-----	2.4 - 3.3	3.3 - 5.6	3.1 - 4.5	3.5 - 5.2	2.2 - 3.2	3.5 - 5.2	2.2 - 3.2	1.3 - 2.0	2.2 - 3.1	3.3 - 5.0			

* Less than 0.05 percent.

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

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Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956

Item		Atlanta, Georgia - Continued									
Grade-----	IM	SGO	GO	M+	SIM+	IM+	SGO+	SMap			
Number of samples-----	38	28	11	23	39	32	27	19			
Staple length (32nd inch):											
Average-----	32.2	31.8	30.6	33.2	32.9	32.9	32.4	32.7			
Range-----	28 - 33	29 - 33	29 - 32	32 - 34	31 - 34	31 - 34	30 - 33	30 - 33			
Fiber length (fibrogram)											
Upper half mean (inches):											
Average-----	1.01	1.00	.99	1.04	1.03	1.03	1.02	.99			
Range-----	.92 - 1.12	.87 - 1.08	.94 - 1.05	.97 - 1.11	.92 - 1.12	.94 - 1.11	.90 - 1.06	.92 - 1.12			
Uniformity ratio:											
Average-----	.77	.76	.75	.80	.80	.78	.78	.79			
Range-----	74 - 82	71 - 81	69 - 80	76 - 83	75 - 83	74 - 83	72 - 81	76 - 80			
Micronaire reading: 1/											
Average-----	3.7	3.5	3.9	4.2	4.1	3.8	3.7	4.4			
Range-----	3.2 - 4.6	2.4 - 4.2	3.4 - 4.4	3.2 - 5.2	3.1 - 5.2	3.1 - 4.4	2.7 - 4.2	3.8 - 5.0			
Fiber tensile strength (Pressley)											
1/8" Gauge (index): 2/											
Average-----	92	92	89	100	99	97	93	97			
Range-----	77 - 101	85 - 113	84 - 99	93 - 108	91 - 114	83 - 107	86 - 103	92 - 105			
Colorimeter grade designation: 3/											
Average-----	IM	SGO+	GO+	M+	SIM+	SIM-	IM	Msp			
Range-----	IM - SGO	IM - SGO	SGO - GO	SM - M	M - SIM	SIM - IM	SIM - SGO	SMap - SIMsp			
Sugar content (percent):											
Average-----	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1			
Range-----	0.0 - 0.4	0.0 - 0.5	0.0 - 0.1	0.1 - 0.7	0.0 - 0.4	0.0 - 0.5	0.0 - 0.1	0.0 - 0.3			
Acid-alkalinity value (pH units):											
Average-----	7.8	7.6	7.2	7.3	7.4	7.8	7.9	7.6			
Range-----	7.0 - 8.7	6.5 - 8.3	6.5 - 7.9	6.5 - 7.9	6.5 - 8.5	6.5 - 9.0	6.5 - 9.0	7.0 - 9.0			
Nonlint content (Shirley Analyzer):											
Number of samples-----	5	5	5	5	5	5	5	4			
Average-----	5.5	7.4	11.9	2.2	3.7	4.6	6.6	2.3			
Range-----	3.6 - 7.6	6.7 - 9.6	10.1 - 13.8	1.8 - 2.6	3.0 - 4.1	4.0 - 4.9	5.5 - 8.2	2.0 - 2.8			

* Less than 0.05 percent

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Continued on page 22

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Atlanta, Georgia - Continued										
Item	Msp	SIMsp	IMsp	SMItsp	MItsp	SIMItsp	IMItsp	Mtg		
Grade-----										
Number of samples-----	28	22	19	25	37	34	26	12		
Staple length (32nd inch):										
Average-----	32.4	32.6	31.9	32.8	32.8	32.7	32.4	32.1		
Range-----	28 - 33	30 - 33	31 - 33	30 - 34	31 - 34	31 - 34	31 - 34	31 - 33		
Fiber length (Fibrogaph)										
Upper half mean (inches):										
Average-----	.99	1.01	1.02	1.02	1.01	1.02	1.02	.98		
Range-----	.92 - 1.09	.92 - 1.08	.91 - 1.11	.92 - 1.16	.94 - 1.10	.95 - 1.13	.88 - 1.14	.94 - 1.02		
Uniformity ratio:										
Average-----	78	79	77	79	79	78	77	79		
Range-----	73 - 81	74 - 82	73 - 84	75 - 82	76 - 83	74 - 82	72 - 82	77 - 82		
Micronaire reading: 1/										
Average-----	4.3	4.2	4.0	4.2	4.3	4.3	4.0	4.8		
Range-----	3.4 - 5.0	3.4 - 5.0	3.4 - 5.2	3.1 - 5.0	3.4 - 5.0	3.2 - 5.0	3.2 - 5.0	4.2 - 5.2		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	96	95	94	99	98	95	95	97		
Range-----	83 - 107	90 - 113	87 - 102	92 - 112	89 - 107	86 - 105	82 - 111	90 - 104		
Colorimeter grade designation: 3/										
Average-----		SIMItsp	IMsp	M	MItsp	SIMItsp	IMsp	SIMsp		
Range-----	M - SIMsp	M - IMsp	IMsp - Below IMsp	SM - IM	M - SM	SM - IMsp	IM - B0	Map - IMtg		
Sugar content (percent):										
Average-----	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2		
Range-----	0.0 - 0.2	0.0 - 0.2	0.0 - 0.3	0.0 - 0.5	0.0 - 0.4	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2		
Acid-alkalinity value (pH units):										
Average-----	7.7	7.6	7.4	7.4	7.7	7.8	7.6	7.7		
Range-----	6.5 - 9.0	5.7 - 8.4	6.8 - 8.3	6.5 - 8.5	7.0 - 8.5	6.3 - 9.0	6.4 - 9.0	6.6 - 8.2		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	5	5	5	5		
Average-----	3.3	5.8	7.4	1.9	3.2	5.1	6.9	4.1		
Range-----	2.6 - 4.6	5.1 - 6.6	5.7 - 9.3	1.8 - 2.4	2.5 - 4.2	4.1 - 6.0	5.4 - 8.9	3.0 - 4.8		

Continued on page 23

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Item	Atlanta, Georgia - Cont'd.				Augusta, Georgia			
	SIMtg	MTS	SM	M	SIM	IM	SGO	M+
Grade-----	13	10	9	16	23	31	24	16
Number of samples-----								
Staple length (32nd inch):								
Average-----	32.0	32.4	33.2	33.2	32.9	31.9	31.9	33.2
Range-----	31 - 33	31 - 33	32 - 34	31 - 35	31 - 34	30 - 34	30 - 34	32 - 34
Fiber length (Fibrograph)								
Upper half mean (inches):								
Average-----	.97	.98	.99	.98	.99	.96	.96	1.00
Range-----	.92 - 1.02	.94 - 1.02	.92 - 1.04	.90 - 1.10	.87 - 1.04	.87 - 1.06	.89 - 1.02	.92 - 1.08
Uniformity ratio:								
Average-----	78	80	78	79	79	78	77	80
Range-----	74 - 83	77 - 82	77 - 80	75 - 83	69 - 84	73 - 82	73 - 85	77 - 84
Micronaire reading: <u>1</u> /								
Average-----	4.2	4.6	4.1	4.1	4.0	3.8	3.6	4.2
Range-----	3.2 - 5.0	4.2 - 4.8	3.6 - 4.7	3.5 - 4.8	3.0 - 4.9	3.0 - 4.6	2.8 - 4.4	3.6 - 4.5
Fiber tensile strength (Pressley)								
<u>1</u> / <u>8</u> " Gauge (index): <u>2</u> /								
Average-----	94	97	96	97	96	92	90	99
Range-----	86 - 102	91 - 101	86 - 103	91 - 106	86 - 103	79 - 99	83 - 98	95 - 106
Colorimeter grade designation: <u>3</u> /								
Average-----	IMtg	SIMtg	M+	M-	SIM+	IM	SGO	M
Range-----	SIMtg - Below grade	MTS - Below Mtg	SM - M	M - SIM	SIM - IM	SIM - SGO	IM - SGO	SM - SIM
Sugar content (percent):								
Average-----	0.1	*	0.3	0.2	0.1	*	*	0.2
Range-----	0.0 - 0.2	-	0.1 - 0.5	0.0 - 0.4	0.0 - 0.4	0.0 - 0.1	0.0 - 0.1	0.0 - 0.7
Acid-alkalinity value (pH units):								
Average-----	7.5	7.8	7.7	7.9	8.3	8.1	7.9	7.8
Range-----	7.0 - 8.4	7.0 - 8.7	6.5 - 9.0	7.0 - 9.0	7.4 - 9.0	7.3 - 9.0	7.2 - 8.7	6.5 - 9.0
Nonlint content (Shirley Analyzer):								
Number of samples-----	5	5	3	5	5	5	5	5
Average-----	4.8	5.6	1.5	2.5	5.0	5.8	8.4	2.1
Range-----	4.0 - 5.9	3.8 - 8.0	1.2 - 1.9	2.0 - 3.1	3.7 - 6.5	3.8 - 7.9	7.9 - 8.8	1.4 - 2.7

* Less than 0.05 percent.

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Continued on page 24

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Augusta, Georgia - Continued										
Item	SIM+	LM+	Msp	SLMap	LMsp	SMItsp	Mltsp	SIMltsp		
Grade-----										
Number of samples-----	19	23	13	17	15	14	31	24		
Staple length (32nd inch):										
Average-----	33.3	32.8	32.5	31.9	32.1	33.1	32.8	32.3		
Range-----	30 - 34	30 - 34	31 - 33	30 - 33	31 - 33	32 - 35	32 - 34	31 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	1.00	.98	.98	.97	.97	.98	1.00	.96		
Range-----	.94 - 1.06	.88 - 1.06	.88 - 1.08	.86 - 1.04	.93 - 1.03	.92 - 1.08	.90 - 1.07	.88 - 1.03		
Uniformity ratio:										
Average-----	80	79	80	79	79	79	80	79		
Range-----	75 - 84	76 - 84	74 - 82	74 - 83	74 - 81	74 - 81	76 - 84	75 - 82		
Micronaire reading: 1/										
Average-----	4.1	3.8	4.4	4.3	4.4	4.3	4.2	4.2		
Range-----	3.3 - 4.8	2.8 - 4.9	3.8 - 4.9	3.6 - 4.8	3.8 - 4.8	3.5 - 4.8	3.6 - 5.0	3.3 - 4.7		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	98	95	99	97	94	96	98	93		
Range-----	90 - 107	84 - 108	90 - 105	85 - 103	90 - 104	88 - 103	83 - 107	85 - 79		
Colorimeter grade designation: 3/										
Average-----		LM+	SIMsp	LMltsp	LMsp	M-	SIM	LM+		
Range-----	M - LM	SIM - LM	M - LMsp	SIM - LMsp	Below LMsp	M - SIM	M - LM	SIM - LMsp		
Sugar content (percent):										
Average-----	0.1	*	*	*	*	0.2	0.1	*		
Range-----	0.0 - 0.5	0.0 - 0.1	0.0 - 0.1	0.0 - 0.1	-	0.0 - 0.5	0.0 - 0.3	0.0 - 0.1		
Acid-alkalinity value (pH units):										
Average-----	8.1	8.3	7.9	7.9	7.8	7.9	8.0	8.0		
Range-----	6.5 - 9.5	7.5 - 9.0	7.3 - 9.0	7.4 - 8.4	7.1 - 8.5	7.0 - 9.0	7.1 - 9.0	7.5 - 8.7		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	5	4	5	5		
Average-----	3.2	4.4	3.7	4.0	8.7	2.3	3.6	4.5		
Range-----	1.8 - 4.2	4.0 - 5.0	2.7 - 5.4	3.2 - 4.4	6.3 - 14.5	1.6 - 3.5	3.1 - 4.0	3.9 - 5.0		

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* Less than 0.05 percent.
1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Item	Augusta, Georgia - Continued	Birmingham, Alabama									
Grade-----	LMItsp	SM	M	SIM	IM	SGO	M+	SIM+			
Number of samples-----	17	27	27	29	36	26	23	27			
Staple length (32nd inch):											
Average-----	32.0	32.3	32.8	32.9	32.7	32.3	32.5	33.1			
Range-----	29 - 33	30 - 34	31 - 34	31 - 34	30 - 34	30 - 33	30 - 34	31 - 34			
Fiber length (Fibroglyph)											
Upper half mean (inches):											
Average-----	.96	.98	.98	1.01	1.00	1.01	.98	1.00			
Range-----	.88 - 1.02	.90 - 1.06	.86 - 1.07	.89 - 1.10	.88 - 1.06	.92 - 1.09	.87 - 1.07	.90 - 1.10			
Uniformity ratio:											
Average-----	78	80	80	79	79	79	80	80			
Range-----	75 - 80	75 - 85	76 - 87	73 - 83	75 - 83	74 - 82	76 - 84	71 - 84			
Micronaire reading: <u>1/</u>											
Average-----	4.1	4.5	4.3	4.1	4.1	4.0	4.3	4.3			
Range-----	3.3 - 4.6	3.5 - 5.0	3.2 - 5.2	3.2 - 5.2	3.2 - 5.0	3.6 - 4.4	3.8 - 5.0	3.2 - 5.2			
Fiber tensile strength (Pressley)											
<u>1/8" Gauge (index): 2/</u>											
Average-----	92	97	95	98	94	94	95	98			
Range-----	86 - 96	87 - 105	82 - 105	86 - 106	86 - 104	84 - 103	82 - 105	84 - 105			
Colorimeter grade designation: <u>3/</u>											
Average-----	LM+	SM-	M	SIM-	IM	SGO+	M	SIM+			
Range-----	LM - SGO	SM - M	SM - SGO	SIM - LM	SIM - SGO	LM - GO	SM - IM	M - SIM			
Sugar content (percent):											
Average-----	*	0.2	0.1	0.1	0.1	0.1	0.1	0.1			
Range-----	-	0.1 - 0.3	0.0 - 0.2	0.0 - 0.2	0.0 - 0.3	0.0 - 0.2	0.1 - 0.3	0.0 - 0.3			
Acid-alkalinity value (pH units):											
Average-----	8.0	7.0	7.4	7.0	7.7	7.6	7.2	7.3			
Range-----	7.5 - 8.6	6.0 - 7.9	6.0 - 8.5	6.9 - 8.7	6.5 - 8.5	7.0 - 8.4	6.4 - 8.4	6.5 - 7.8			
Nonlint content (Shirley Analyzer):											
Number of samples-----	5	5	4	5	5	5	5	5			
Average-----	5.2	1.8	2.6	4.1	4.8	8.7	2.2	3.1			
Range-----	5.2 - 5.3	1.6 - 2.1	2.0 - 2.8	3.9 - 4.3	3.6 - 6.9	7.7 - 9.8	1.6 - 2.8	2.2 - 4.4			

* Less than 0.05 percent.

1/ Fiber fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

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Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Birmingham, Alabama - Continued										
Item	IM+	S00+	SMap	Msp	SIMsp	IMsp	SIMtsp	Mltsp		
Grade-----	24	17	9	20	22	10	22	29		
Number of samples-----	24	17	9	20	22	10	22	29		
Staple length (32nd inch):										
Average-----	32.4	32.6	33.1	32.5	32.4	31.4	32.8	32.6		
Range-----	30 - 33	31 - 33	33 - 34	29 - 34	31 - 33	30 - 33	29 - 34	31 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	.98	1.01	1.01	1.01	.99	.96	1.00	.99		
Range-----	.86 - 1.12	.92 - 1.06	.94 - 1.12	.88 - 1.10	.86 - 1.16	.91 - 1.08	.88 - 1.10	.89 - 1.11		
Uniformity ratio:										
Average-----	78	76	78	79	77	76	78	78		
Range-----	72 - 83	72 - 82	72 - 81	75 - 83	73 - 83	73 - 81	73 - 83	74 - 82		
Micronaire reading: 1/										
Average-----	3.9	3.6	4.2	3.9	3.9	3.7	4.2	4.1		
Range-----	3.0 - 4.8	3.0 - 4.6	3.4 - 4.8	3.3 - 4.8	2.9 - 5.4	3.2 - 4.4	3.3 - 4.8	3.3 - 5.0		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	95	95	99	98	94	92	96	96		
Range-----	86 - 103	81 - 103	90 - 108	85 - 113	82 - 102	83 - 101	85 - 112	80 - 118		
Colorimeter grade designation: 3/										
Average-----	IM+	IM+	SMap	SIMtsp	SIMsp	IMtsp	M	Mltsp		
Range-----	SIM - IM	SIM - IM	SMap - Map	Map - SIMsp	SIM - IMsp	IM - S00	SM - SIM	M - IM		
Sugar content (percent):										
Average-----	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
Range-----	0.0 - 0.3	0.0 - 0.2	0.1 - 0.2	0.0 - 0.3	0.0 - 0.2	0.0 - 0.3	0.0 - 0.3	0.0 - 0.4		
Acid-alkalinity value (pH units):										
Average-----	7.5	7.5	7.6	7.5	7.6	7.4	7.5	7.5		
Range-----	6.5 - 8.5	7.0 - 8.6	7.0 - 8.5	6.3 - 8.2	6.0 - 8.4	6.4 - 8.0	6.5 - 8.5	6.8 - 8.5		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	6	5	5	5	5	5		
Average-----	4.6	5.6	2.4	4.5	5.6	5.5	2.9	3.5		
Range-----	2.8 - 6.2	4.7 - 9.8	2.0 - 3.2	3.0 - 5.2	4.5 - 6.4	4.6 - 6.8	1.9 - 3.5	2.9 - 4.4		

Continued on page 27

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Item	Birmingham, Alabama - Continued										Montgomery, Alabama									
	SIMitap	IMitap	M	SIM	IM	SIM+	IM+	SIMap			SIM	IM	SIM+	IM+	SIMap					
Grade-----																				
Number of samples-----	30	25	23	30	21	10	15	9												
Staple length (32nd inch):																				
Average-----	32.5	30.8	33.0	33.0	32.6	32.9	32.9	31.9												
Range-----	31 - 34	30 - 34	32 - 34	31 - 34	32 - 33	31 - 34	32 - 34	30 - 33												
Fiber length (Fibrogaph)																				
Upper half mean (inches):																				
Average-----	.99	.97	1.01	1.01	.99	1.00	1.00	.99												
Range-----	.89 - 1.12	.88 - 1.05	.94 - 1.08	.88 - 1.10	.90 - 1.06	.94 - 1.05	.93 - 1.10	.92 - 1.02												
Uniformity ratio:																				
Average-----	.79	.78	.78	.78	.77	.78	.78	.77												
Range-----	75 - 86	74 - 82	74 - 81	74 - 81	74 - 80	77 - 81	73 - 82	74 - 80												
Micronaire reading: 1/																				
Average-----	4.1	4.0	3.9	3.9	3.7	3.8	3.7	4.1												
Range-----	3.2 - 4.7	3.2 - 4.6	3.2 - 5.1	3.2 - 4.8	3.0 - 4.5	3.2 - 4.1	2.9 - 4.4	3.6 - 4.4												
Fiber tensile strength (Pressley)																				
1/8" Gauge (index): 2/																				
Average-----	95	92	99	98	91	97	96	94												
Range-----	85 - 106	82 - 104	93 - 107	87 - 108	79 - 107	94 - 103	82 - 107	84 - 101												
Colorimeter grade designation: 3/																				
Average-----																				
Range-----	SIM - IM	IMitap	M	SIM	IM	M	SIM	SIMap												
Sugar content (percent):																				
Average-----	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.0												
Range-----	0.0 - 0.2	0.0 - 0.3	0.0 - 0.4	0.0 - 0.5	0.0 - 0.2	0.1 - 0.2	0.0 - 0.2	0.0 - 0.1												
Acid-alkalinity value (pH units):																				
Average-----	7.9	7.5	7.8	7.9	8.1	7.5	7.9	7.8												
Range-----	7.1 - 8.9	6.7 - 8.2	7.0 - 8.5	6.0 - 9.0	7.5 - 8.6	7.0 - 7.8	7.4 - 9.0	7.4 - 8.2												
Nonlint content (Shirley Analyzer):																				
Number of samples-----	5	5	4	6	5	5	5	5												
Average-----	3.8	4.8	2.4	4.6	4.7	3.9	5.5	4.0												
Range-----	3.1 - 4.8	2.0 - 8.2	1.8 - 3.5	3.6 - 5.2	3.8 - 5.4	3.1 - 4.6	4.6 - 6.8	2.5 - 6.2												

Continued on page 28

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 1.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southeastern area, crop of 1956--Continued

Item	Montgomery, Alabama - Continued
Grade-----	SLMitsp
Number of samples-----	17
Staple length (32nd inch):	
Average-----	32.9
Range-----	31 - 35
Fiber length (Fibrograph)	
Upper half mean (inches):	
Average-----	1.01
Range-----	.91 - 1.08
Uniformity ratio:	
Average-----	78
Range-----	73 - 84
Micronaire reading: 1/	
Average-----	3.7
Range-----	3.1 - 4.2
Fiber tensile strength (Pressley)	
1/8" Gauge (index): 2/	
Average-----	98
Range-----	85 - 116
Colorimeter grade designation: 3/	
Average-----	SLM
Range-----	SM - SLMsp
Sugar content (percent):	
Average-----	0.1
Range-----	0.0 - 0.5
Acid-alkalinity value (pH units)	
Average-----	7.9
Range-----	7.0 - 9.0
Nonlint content (Shirley Analyzer):	
Number of samples-----	5
Average-----	3.6
Range-----	2.9 - 4.4

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area of the United States, crop of 1956

Memphis, Tennessee										
Item	SM	Mid	SIM	IM	SGO	GO	M+	SIM+		
Grade-----	23	35	38	40	33	25	11	23		
Number of samples-----	23	35	38	40	33	25	11	23		
Staple length (32nd inch):										
Average-----	32.9	33.5	33.1	33.0	32.8	31.7	33.3	33.6		
Range-----	29 - 34	30 - 35	30 - 35	32 - 34	32 - 34	30 - 34	29 - 35	32 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	.97	1.01	.99	.95	1.00	.97	.98	1.02		
Range-----	.84 - 1.04	.90 - 1.10	.90 - 1.08	.92 - 1.08	.91 - 1.08	.84 - 1.04	.84 - 1.04	.92 - 1.10		
Uniformity ratio:										
Average-----	78	75	76	76	74	74	79	78		
Range-----	72 - 82	70 - 85	72 - 80	70 - 83	69 - 79	70 - 78	75 - 81	69 - 82		
Micronaire reading: $\frac{1}{1}$										
Average-----	4.2	4.2	4.0	4.1	3.8	3.8	4.2	4.1		
Range-----	3.3 - 5.0	2.8 - 4.8	2.9 - 5.0	3.3 - 5.2	3.0 - 4.4	2.8 - 4.8	3.7 - 4.4	3.5 - 4.8		
Fiber tensile strength (Pressley)										
$\frac{1}{8}$ " Gauge (index): $\frac{2}{1}$										
Average-----	102	99	98	99	98	99	100	101		
Range-----	94 - 117	85 - 120	91 - 113	85 - 110	87 - 107	92 - 108	94 - 108	91 - 106		
Colorimeter grade designation: $\frac{3}{1}$										
Average-----	SM-	M	SIM	IM	SGO	GO+	M+	SIM+		
Range-----	SM - SIM	SM - SIM	SIM - IM	SIM - SGO	IM - GO	SGO - GO	SM - M	M - SIM		
Sugar content (percent):										
Average-----	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2		
Range-----	0.1 - 0.4	0.0 - 0.3	0.0 - 0.4	0.0 - 0.3	0.0 - 0.3	0.0 - 0.2	0.1 - 0.4	0.1 - 0.4		
Acid-alkalinity value (pH units):										
Average-----	6.9	7.3	7.5	7.5	7.4	7.2	7.2	7.2		
Range-----	6.5 - 7.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 7.5	6.8 - 7.5	6.5 - 8.0		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	5	5	5	5		
Average-----	2.4	2.9	3.9	5.5	6.8	10.6	3.0	4.5		
Range-----	2.1 - 2.6	2.4 - 3.9	3.2 - 4.5	4.1 - 6.5	5.5 - 7.3	9.2 - 11.6	2.5 - 3.3	4.0 - 5.1		

Continued on page 30

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Memphis, Tennessee--Continued					Greenwood, Mississippi				
	IM+	GO+	MItp	SIMtp	IMltsp	SM	Mid	SIM		
Grade-----										
Number of samples-----	21	20	18	11	10	15	27	27		
Staple length (32nd inch):										
Average-----	33.4	33.0	32.8	32.6	31.5	34.3	33.8	33.8		33.8
Range-----	32 - 34	31 - 34	30 - 34	30 - 34	30 - 34	33 - 36	33 - 36	33 - 36		33 - 36
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	1.01	.97	.98	.99	.94	1.05	1.02	1.02		1.02
Range-----	.93 - 1.06	.84 - 1.09	.90 - 1.06	.93 - 1.04	.78 - 1.02	1.01 - 1.13	.90 - 1.11	.90 - 1.14		
Uniformity ratio:										
Average-----	75	75	78	75	74	79	78	77		77
Range-----	70 - 81	69 - 81	71 - 85	70 - 77	71 - 82	74 - 84	71 - 85	71 - 81		
Micronaire reading: <u>1</u> /										
Average-----	4.1	3.6	4.1	4.4	3.3	4.4	4.4	4.3		4.3
Range-----	3.1 - 4.6	2.7 - 4.6	3.4 - 4.6	2.9 - 5.0	3.0 - 4.1	4.0 - 5.0	3.8 - 5.0	3.5 - 4.8		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): <u>2</u> /										
Average-----	98	99	99	97	96	106	104	101		101
Range-----	84 - 106	88 - 108	86 - 118	91 - 108	82 - 106	98 - 113	83 - 114	90 - 116		
Colorimeter grade designation: <u>3</u> /										
Average-----	IM+	IM	SIM	IM	IM ltsp	M+	M-	SIM-		SIM-
Range-----	SIM - IM	SIM - SGO	M - IM	SIM - SGO	SIM - SGO	SM - M	M - SIM	SIM - IM		
Sugar content (percent):										
Average-----	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1		0.1
Range-----	0.0 - 0.3	0.0 - 0.3	0.1 - 0.5	0.0 - 0.2	0.1 - 0.3	0.1 - 0.4	0.1 - 0.3	0.0 - 0.4		
Acid-alkalinity value (pH units):										
Average-----	7.3	7.2	7.2	7.4	7.2	7.5	7.8	8.0		8.0
Range-----	6.5 - 8.0	6.5 - 8.0	6.5 - 8.0	6.5 - 8.0	6.5 - 7.5	7.0 - 9.0	7.0 - 9.0	6.5 - 9.0		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	3	5	5	4	5		5
Average-----	5.0	8.9	4.2	5.3	7.9	3.1	3.8	3.7		3.7
Range-----	3.5 - 6.1	7.3 - 10.4	3.7 - 4.8	4.2 - 6.4	6.5 - 9.1	2.9 - 3.5	3.4 - 4.1	2.6 - 5.6		

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Continued on page 31

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Greenwood, Mississippi								
Item	LM	SGO	M+	SIM+	IM+	Mltap	IMltap	SMltap
Grade-----								
Number of samples-----	27	9	19	21	20	11	9	11
Staple length (32nd inch):								
Average-----	33.4	33.2	34.2	34.0	33.7	33.4	33.0	33.5
Range-----	33 - 35	32 - 34	33 - 37	33 - 37	33 - 35	33 - 34	32 - 34	33 - 35
Fiber length (Fibroglyph)								
Upper half mean (inches):								
Average-----	.99	1.01	1.04	1.06	1.04	1.00	1.00	1.00
Range-----	.90 - 1.10	.90 - 1.08	.96 - 1.13	1.00 - 1.14	.88 - 1.11	.90 - 1.08	.90 - 1.06	.98 - 1.05
Uniformity ratio:								
Average-----	76	72	80	79	76	76	74	76
Range-----	68 - 83	69 - 75	73 - 87	69 - 85	69 - 85	74 - 78	71 - 76	71 - 79
Micronaire reading: <u>1/</u>								
Average-----	3.9	3.7	4.4	4.0	4.2	4.4	4.3	4.5
Range-----	3.0 - 4.9	3.2 - 4.4	3.8 - 5.0	3.4 - 4.6	3.2 - 5.0	3.8 - 4.8	3.9 - 4.8	4.0 - 4.9
Fiber tensile strength (Pressley)								
1/8" Gauge (index): <u>2/</u>								
Average-----	99	102	105	106	103	98	96	98
Range-----	78 - 116	92 - 116	93 - 113	91 - 115	93 - 112	91 - 103	91 - 101	92 - 108
Colorimeter grade designation: <u>3/</u>								
Average-----	IM	SGO+	M	M	SIM-	SIM	IMltap	IM+
Range-----	SIM - SGO	IM - SGO	SM - Map	M - SIM	SIM - IM	M - IM	IM - IMsp	SIM - IM
Sugar content (percent):								
Average-----	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
Range-----	0.0 - 0.4	0.0 - 0.3	0.1 - 0.4	0.1 - 0.4	0.0 - 0.2	0.0 - 0.2	0.1 - 0.1	0.0 - 0.2
Acid-alkalinity value (pH units):								
Average-----	7.9	7.9	7.4	7.3	7.8	8.2	8.2	8.4
Range-----	7.0 - 9.5	7.0 - 9.0	6.5 - 8.0	6.5 - 8.5	6.5 - 8.5	7.5 - 9.0	7.5 - 9.0	6.5 - 9.0
Nonlint content (Shirley Analyzer):								
Number of samples-----	5	2	5	5	5	3	3	3
Average-----	5.9	8.5	2.5	4.0	6.1	3.9	8.1	3.2
Range-----	5.1 - 6.4	8.4 - 8.7	2.4 - 2.6	3.4 - 5.1	5.4 - 8.0	3.0 - 4.7	7.6 - 8.7	3.0 - 3.4

Continued on page 32

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Hattisburg, Mississippi										
	Greenwood, Mississippi (Continued)	Mltgr	SM	M	SIM	IM	M+	SIM+	IM+		
Grade-----											
Number of samples-----	14	11		12	12	10	11	13	10		
Staple length (32nd inch):											
Average-----	33.4	33.5	33.7	33.7	33.9	33.6	33.7	34.0	33.3		
Range-----	33 - 35	32 - 34	32 - 34	32 - 34	33 - 34	33 - 34	33 - 34	32 - 35	33 - 34		
Fiber length (Fibrograph)											
Upper half mean (inches):											
Average-----	.99	1.05	1.04	1.04	1.04	1.03	1.04	1.05	1.03		
Range-----	.94 - 1.06	.94 - 1.12	.99 - 1.10	.99 - 1.10	1.00 - 1.06	.94 - 1.10	.93 - 1.12	.98 - 1.12	.98 - 1.09		
Uniformity ratio:											
Average-----	73	82	79	79	79	79	82	78	78		
Range-----	69 - 76	74 - 86	73 - 85	73 - 85	76 - 84	72 - 86	73 - 85	70 - 83	69 - 84		
Micronaire reading: $\frac{1}{1}$											
Average-----	4.4	4.4	4.3	4.3	4.1	4.0	4.3	3.9	4.1		
Range-----	3.7 - 4.8	3.3 - 4.8	4.0 - 4.8	4.0 - 4.8	3.0 - 5.2	3.7 - 4.4	4.0 - 4.8	3.4 - 4.6	2.9 - 4.6		
Fiber tensile strength (Pressley)											
1/8" Gauge (index): $\frac{2}{1}$											
Average-----	94	102	102	102	101	99	102	99	98		
Range-----	81 - 104	91 - 109	94 - 111	94 - 111	98 - 107	92 - 110	93 - 110	91 - 108	84 - 110		
Colorimeter grade designation: $\frac{3}{1}$											
Average-----	IM	M+	M	M	SIM	IM+	M	M-	SIM		
Range-----	all IM	SM - M	M - SIM	M - SIM	all SIM	SIM - IM	all M	M - SIM	all SIM		
Sugar content (percent):											
Average-----	*	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1		
Range-----	0.0 - 0.1	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.1 - 0.3	0.0 - 0.2	0.1 - 0.7	0.0 - 0.3		
Acid-alkalinity value (pH units):											
Average-----	8.6	7.6	8.0	8.0	7.5	8.0	7.7	7.6	8.1		
Range-----	8.0 - 9.0	7.0 - 8.9	7.3 - 9.1	7.3 - 9.1	7.0 - 8.0	7.5 - 9.0	7.0 - 9.4	7.0 - 8.5	7.5 - 9.4		
Nonlint content (Shirley Analyzer):											
Number of samples-----	3	5	4	4	5	5	5	5	3		
Average-----	3.5	2.9	3.3	3.3	5.1	6.5	3.2	4.4	5.8		
Range-----	3.1 - 4.2	2.4 - 3.5	2.9 - 4.2	2.9 - 4.2	4.1 - 6.1	5.7 - 7.4	2.5 - 3.5	3.6 - 5.4	4.9 - 6.9		

Continued on page 33

* Less than 0.05 percent.

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Hattiesburg, Mississippi, (Continued)				Jackson, Mississippi				Prentiss, Mississippi		Hayti, Missouri	
	Grade	Mtsp	SM	M	SIM	IM	Mtsp	SM	GM			
Number of samples		12	13	24	25	16	14	9	9			
Staple length (32nd inch):												
Average		32.8	33.7	33.4	33.2	33	33.2	33.6	33.7			
Range		30 - 34	32 - 38	32 - 35	32 - 34	32 - 34	32 - 35	33 - 34	33 - 34			
Fiber length (Fibrogaph)												
Upper half mean (inches):												
Average		1.00	1.02	1.01	.99	.98	1.00	1.02	1.01			
Range		.90 - 1.10	.92 - 1.16	.92 - 1.11	.90 - 1.06	.88 - 1.05	.92 - 1.07	1.00 - 1.05	.97 - 1.04			
Uniformity ratio:												
Average		80	79	78	77	76	76	77	75			
Range		74 - 85	74 - 84	72 - 85	71 - 81	70 - 85	72 - 85	71 - 83	73 - 78			
Micronaire reading: $\frac{1}{2}$												
Average		4.5	4.4	4.5	4.1	4.1	4.3	4.5	4.2			
Range		3.5 - 5.0	3.9 - 4.7	3.8 - 5.0	3.6 - 4.7	3.0 - 4.8	3.6 - 5.0	4.2 - 5.0	3.7 - 4.8			
Fiber tensile strength (Pressley)												
$\frac{1}{8}$ " Gauge (index): $\frac{2}{3}$												
Average		97	101	99	99	96	96	98	104			
Range		85 - 111	93 - 119	89 - 108	91 - 105	86 - 103	85 - 110	95 - 102	97 - 111			
Colorimeter grade designation: $\frac{3}{4}$												
Average		SIM+	SM-	M-	SIM	IM+	SIM	M+	SM-			
Range		M - SIM	SM - M	M - SIM	M - IM	SIM - IM	M - IM	SM - M	SM - M			
Sugar content (percent):												
Average		0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2			
Range		0.0 - 0.2	0.1 - 0.4	0.0 - 0.4	0.0 - 0.3	0.0 - 0.4	0.0 - 0.4	0.0 - 0.1	0.1 - 0.3			
Acid-alkalinity value (pH units):												
Average		8.2	7.4	7.6	8.1	8.1	8.1	7.8	7.7			
Range		6.5 - 9.4	6.5 - 8.5	6.5 - 8.5	7.0 - 9.5	7.0 - 8.5	7.0 - 9.5	7.5 - 8.3	7.0 - 8.5			
Nonlint content (Shirley Analyzer):												
Number of samples		4	5	5	5	5	4	5	5			
Average		3.6	2.7	3.1	4.6	6.0	4.5	2.4	1.8			
Range		2.4 - 4.2	1.9 - 3.4	2.7 - 3.8	3.9 - 5.1	4.7 - 7.0	3.8 - 5.3	2.1 - 2.6	1.8 - 1.9			

Continued on page 34

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Hayti, Missouri--Continued										
	Grade	SM	M	SIM	IM	SGO	GO	M+	SIM+		
Number of samples	23	23	26	30	29	28	25	23	25		
Staple length (32nd inch):											
Average	33.6	33.6	33.6	34.6	32.8	31.8	31.32	33.7	33.6		
Range	33 - 35	32 - 36	32 - 36	32 - 35	31 - 35	30 - 33	30 - 33	33 - 35	33 - 35		
Fiber length (Fibrograph)											
Upper half mean (inches):											
Average	1.02	1.01	1.01	1.24	.99	.99	.95	1.01	1.02		
Range	.88 - 1.10	.93 - 1.10	.93 - 1.10	.88 - 1.06	.88 - 1.07	.92 - 1.08	.87 - 1.05	.92 - 1.08	.88 - 1.08		
Uniformity ratio:											
Average	78	77	77	76	74	73	72	76	76		
Range	70 - 58	67 - 84	67 - 84	71 - 84	66 - 80	69 - 78	69 - 76	71 - 81	70 - 83		
Micronaire reading: 1/											
Average	4.4	4.1	4.1	3.9	3.8	3.4	3.5	4.2	4.0		
Range	3.9 - 5.0	3.2 - 5.0	3.2 - 5.0	3.0 - 5.4	2.7 - 4.4	2.6 - 3.8	2.9 - 4.4	3.2 - 4.9	3.2 - 4.6		
Fiber tensile strength (Pressley)											
1/8" Gauge (index): 2/											
Average	103	104	104	98	98	95	95	103	101		
Range	93 - 113	95 - 115	95 - 115	85 - 117	86 - 118	85 - 106	84 - 105	91 - 115	87 - 116		
Colorimeter grade designation: 3/											
Average	M+	M	M	SIM	IM	SGO	GO+	M	SIM+		
Range	SM - M	M - SIM	M - SIM	M - IM	SIM - SGO	IM - GO	SGO - BG	M - Map	M - SIM		
Sugar content (percent):											
Average	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2		
Range	0.0 - 0.3	0.1 - 0.3	0.1 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.1 - 0.3		
Acid-alkalinity value (pH units):											
Average	7.6	7.6	7.6	7.7	7.5	7.4	7.5	7.5	7.6		
Range	6.1 - 8.5	6.3 - 8.5	6.3 - 8.5	6.2 - 9.0	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.6 - 8.5	6.2 - 9.0		
Nonlint content (Shirley Analyzer):											
Number of samples	5	5	5	5	5	5	5	5	5		
Average	2.5	2.9	2.9	3.9	4.8	7.3	11.3	2.8	3.8		
Range	2.2 - 2.6	2.6 - 3.2	2.6 - 3.2	3.4 - 4.4	3.3 - 5.9	4.5 - 10.0	9.0 - 13.4	2.6 - 3.3	2.9 - 4.5		

Continued on page 35

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Hayti, Missouri--Continued					Blytheville, Arkansas				
	IM+	SGO+	IMsp	IMtsp	SIMtg	SM	M	SIM		
Grade-----										
Number of samples-----	25	15	27	17	10	12	17	19		
Staple length (32nd inch):										
Average-----	33.0	33.0	31.3	31.5	30.9	34.3	34.1	33.6		
Range-----	33 - 34	31 - 34	30 - 32	30 - 33	30 - 33	33 - 36	33 - 35	33 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	.99	1.02	.97	.97	.94	1.02	1.03	1.00		
Range-----	.89 - 1.08	.95 - 1.11	.88 - 1.04	.88 - 1.02	.86 - 1.01	.96 - 1.08	1.01 - 1.08	.91 - 1.06		
Uniformity ratio:										
Average-----	.75	.73	.73	.73	.73	.76	.76	.75		
Range-----	67 - 85	70 - 77	69 - 78	69 - 77	70 - 76	71 - 80	72 - 80	70 - 81		
Micronaire reading: 1/										
Average-----	3.8	3.5	3.4	3.6	2.9	4.6	4.3	4.1		
Range-----	2.8 - 4.8	3.0 - 3.9	2.6 - 4.6	3.0 - 4.2	2.8 - 3.1	4.0 - 5.0	3.3 - 5.3	3.2 - 4.7		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	100	101	97	95	96	104	106	103		
Range-----	87 - 109	93 - 109	88 - 108	87 - 111	89 - 109	93 - 114	97 - 124	93 - 114		
Colorimeter grade designation: 3/										
Average-----		IM-	IMsp	IMtsp	IMsp	M+	M-	SIM		
Range-----	SIM - IM	IM - SGO	SIMsp - IMsp	SIM - SGO	Mtg - IMtg	SM - M	M - SIM	SIM - IM		
Sugar content (percent):										
Average-----	0.1	0.2	0.1	0.1	0.3	0.2	0.1	0.1		
Range-----	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.2	0.0 - 0.7	0.0 - 0.3	0.0 - 0.2	0.0 - 0.3		
Acid-alkalinity value (pH units):										
Average-----	7.5	7.4	7.3	7.7	7.0	7.1	7.3	7.5		
Range-----	6.0 - 9.0	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.1 - 7.8	6.5 - 8.0	6.5 - 8.0	7.0 - 8.0		
Nonlint content (Shirley Analyzer):										
Number of samples-----	2	4	5	5	5	5	5	5		
Average-----	5.7	8.3	8.1	7.6	6.3	2.4	3.0	4.6		
Range-----	5.6 - 5.8	7.8 - 8.7	7.1 - 9.5	5.8 - 9.0	4.4 - 8.0	2.2 - 2.9	2.5 - 3.7	4.0 - 4.8		

Continued on page 36

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Blytheville, Arkansas--Continued										Little Rock, Arkansas			
	IM	SGO	GO	M+	SDM+	SM	M	SIM						
Grade-----	17	16	15	9	11	15	20	30						
Number of samples-----														
Staple length (32nd inch):														
Average-----	33.4	32.2	32.4	34.3	33.7	33.9	33.6	33.0						
Range-----	32 - 35	32 - 33	32 - 33	33 - 36	32 - 34	33 - 37	32 - 35	30 - 34						
Fiber length (Fibrograph)														
Upper half mean (inches):														
Average-----	.99	.99	.98	1.03	1.01	1.02	1.02	1.02						
Range-----	.92 - 1.08	.96 - 1.03	.91 - 1.04	.98 - 1.08	.95 - 1.06	.94 - 1.18	.90 - 1.14	.92 - 1.07						
Uniformity ratio:														
Average-----	74	73	73	77	78	78	76	76						
Range-----	67 - 83	70 - 77	70 - 76	71 - 79	71 - 80	69 - 85	69 - 83	67 - 83						
Micronaire reading: $\frac{1}{1}$														
Average-----	4.3	4.2	3.9	4.3	4.4	4.5	4.2	4.2						
Range-----	3.8 - 4.8	3.8 - 4.6	3.5 - 4.4	4.0 - 4.8	3.8 - 4.9	3.5 - 5.0	3.6 - 5.2	2.8 - 5.0						
Fiber tensile strength (Pressley)														
$\frac{1}{8}$ " Gauge (index): $\frac{2}{2}$														
Average-----	98	95	95	107	104	105	101	101						
Range-----	87 - 109	89 - 99	91 - 101	99 - 116	91 - 114	95 - 128	80 - 113	92 - 110						
Colorimeter grade designation: $\frac{3}{3}$														
Average-----	IM - SGO	SGO	GO+	M	SIM	SM - M	M - SIM	SIM - IM						
Range-----	IM - SGO	IM - SGO	GO - GO	M	M - SIM	SM - M	M - SIM	SIM - IM						
Sugar content (percent):														
Average-----	0.1	0.1	*	0.2	0.1	0.2	0.1	0.1						
Range-----	0.0 - 0.2	0.0 - 0.2	0.0 - 0.1	0.1 - 0.3	0.1 - 0.3	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3						
Acid-alkalinity value (pH units):														
Average-----	7.8	7.6	7.5	7.1	7.6	7.6	7.6	7.9						
Range-----	7.0 - 9.0	7.3 - 8.0	7.1 - 8.0	6.4 - 7.5	6.5 - 8.5	7.0 - 8.0	6.5 - 9.0	6.5 - 9.0						
Nonlint content (Shirley Analyzer):														
Number of samples-----	5	5	5	5	5	5	5	5						
Average-----	6.3	7.2	9.8	3.3	3.9	2.6	3.0	4.0						
Range-----	4.2 - 8.1	5.2 - 10.1	4.9 - 13.1	2.6 - 3.8	4.5 - 3.1	1.9 - 4.0	2.6 - 3.3	3.3 - 5.3						

* Less than 0.05 percent.

$\frac{1}{1}$ / Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

$\frac{2}{2}$ / Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

$\frac{3}{3}$ / This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

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Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Little Rock, Arkansas--Continued													
Item	IM	SGO	GO	M+	SIM+	IM+	SGO+	GO+					
Grade-----													
Number of samples-----	30	21	18	16	22	23	13	13					
Staple length (32nd inch):													
Average-----	32.5	32.3	31.9	33.6	33.4	33.0	32.5	32.6					
Range-----	30 - 34	31 - 33	28 - 33	33 - 34	30 - 35	30 - 34	29 - 34	31 - 33					
Fiber length (Fibrograph)													
Upper half mean (inches):													
Average-----	1.00	1.00	.97	1.03	1.02	1.01	1.01	1.03					
Range-----	.86 - 1.12	.93 - 1.06	.89 - 1.02	.96 - 1.11	.86 - 1.09	.82 - 1.11	.82 - 1.08	.98 - 1.10					
Uniformity ratio:													
Average-----	.75	.74	.72	.78	.78	.75	.75	.74					
Range-----	69 - 82	68 - 79	68 - 78	71 - 84	69 - 84	69 - 82	70 - 79	70 - 79					
Micronaire reading: $\frac{1}{1}$													
Average-----	4.1	4.1	3.9	4.5	3.1	4.1	3.9	3.9					
Range-----	3.2 - 5.2	3.2 - 4.8	3.3 - 4.8	3.8 - 5.0	2.8 - 5.4	2.8 - 4.8	2.6 - 4.8	3.1 - 4.5					
Fiber tensile strength (Pressley)													
$\frac{1}{8}$ " Gauge (index): $\frac{2}{2}$													
Average-----	100	100	95	104	104	101	102	103					
Range-----	85 - 120	87 - 112	78 - 111	94 - 112	91 - 121	87 - 113	90 - 116	92 - 114					
Colorimeter grade designation: $\frac{3}{3}$													
Average-----	IM	SGO	GO+	M+	M-	SIM-	IM	SGO+					
Range-----	SIM - SGO	GO - IM	SGO - GO	SM - M	M - SIM	SIM - IM	IM - SGO	IM - SGO					
Sugar content (percent):													
Average-----	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1					
Range-----	0.0 - 0.3	0.0 - 0.2	0.0 - 0.2	0.1 - 0.3	0.0 - 0.3	0.1 - 0.3	0.0 - 0.2	0.0 - 0.3					
Acid-alkalinity value (pH units):													
Average-----	7.8	7.7	7.5	7.5	7.3	7.5	7.6	7.5					
Range-----	7.0 - 9.0	7.0 - 9.0	6.5 - 8.5	6.5 - 8.5	6.5 - 8.0	6.5 - 8.0	6.5 - 8.5	6.5 - 8.5					
Nonlint content (Shirley Analyzer):													
Number of samples-----	5	5	6	5	5	5	5	4					
Average-----	5.7	7.9	11.2	2.5	3.2	6.2	7.2	10.4					
Range-----	4.6 - 6.3	6.5 - 10.0	10.2 - 12.7	2.0 - 3.3	2.6 - 4.7	4.9 - 7.5	6.0 - 8.4	9.6 - 11.7					

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$\frac{1}{1}$ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 $\frac{2}{2}$ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 $\frac{3}{3}$ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Little Rock, Arkansas--Continued										Alexandria, Louisiana
Grade-----	SIMsp	LMsp	Mtsp	SIMItsp	IMItsp	MIItsp	SIMItgr	SM			
Number of samples-----	17	13	19	27	16	16	10	15			
Staple length (32nd inch):											
Average-----	32.0	31.8	31.4	32.1	32.0	32.5	32.4	33.9			
Range-----	31 - 33	30 - 33	28 - 34	28 - 34	30 - 33	30 - 34	31 - 33	33 - 34			
Fiber length (Fibrograph)											
Upper half mean (inches):											
Average-----	.97	1.00	.95	.98	.98	.98	.99	1.02			
Range-----	.86 - 1.06	.93 - 1.08	.84 - 1.06	.84 - 1.08	.88 - 1.05	.92 - 1.02	.96 - 1.04	.92 - 1.10			
Uniformity ratio:											
Average-----	71	72	77	75	73	76	74	79			
Range-----	68 - 75	70 - 75	71 - 83	61 - 80	70 - 80	71 - 80	66 - 78	74 - 85			
Micronaire reading: 1/											
Average-----	3.8	3.6	4.1	4.1	4.0	4.4	3.9	4.8			
Range-----	3.0 - 4.6	2.9 - 5.0	3.2 - 5.2	3.2 - 5.2	3.2 - 5.1	3.2 - 5.0	3.3 - 4.8	3.6 - 5.6			
Fiber tensile strength (Pressley)											
1/8" Gauge (index): 2/											
Average-----	100	99	100	98	94	97	98	108			
Range-----	89 - 109	90 - 105	88 - 111	88 - 111	87 - 101	82 - 104	88 - 106	97 - 118			
Colorimeter grade designation: 3/											
Average-----	IMItsp	LMsp	Mtsp	IMItsp	IM - SGO	SGO+	SGO -	SM -			
Range-----	SIMsp - IMsp	LMsp - Below IMsp	M - SIM	M - Below IMsp	IM - SGO	IM - SGO	GO - SGO	SM - M			
Sugar content (percent):											
Average-----	0.1	0.1	0.1	0.1	0.1	*	0.1	0.3			
Range-----	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.4	0.0 - 0.2	0.0 - 0.2	0.0 - 0.3	0.1 - 0.7			
Acid-alkalinity value (pH units):											
Average-----	7.9	7.6	7.5	7.7	7.8	8.3	8.0	7.1			
Range-----	7.0 - 8.5	7.0 - 8.5	6.5 - 8.0	6.5 - 9.0	7.0 - 9.0	7.5 - 9.5	7.0 - 9.0	6.0 - 8.0			
Nonlint content (Shirley Analyzer):											
Number of samples-----	5	4	5	4	5	4	4	6			
Average-----	5.7	6.6	4.8	5.3	6.2	3.7	5.5	2.5			
Range-----	5.0 - 6.8	5.2 - 10.3	4.3 - 5.7	4.1 - 7.0	4.3 - 7.4	3.5 - 4.3	4.4 - 6.0	2.0 - 5.6			

* Less than 0.05 percent.

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

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Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Alexandria, Louisiana--Continued											
Item	M	SIM	IM	SGO	M+	SIM+	IM+	SGO+			
Grade-----											
Number of samples-----	25	27	20	13	12	18	13	9			
Staple length (32nd inch):											
Average-----	31.7	32.2	33.3	32.9	32.8	32.6	33.4	32.1			
Range-----	30 - 34	32 - 34	33 - 34	32 - 34	31 - 34	31 - 34	30 - 34	31 - 33			
Fiber length (Fibroglyph)											
Upper half mean (inches):											
Average-----	1.00	1.01	1.00	.98	1.01	.99	1.02	.90			
Range-----	.86 - 1.08	.87 - 1.10	.91 - 1.08	.92 - 1.05	.94 - 1.06	.88 - 1.08	.90 - 1.08	.85 - .94			
Uniformity ratio:											
Average-----	.77	.77	.75	.73	.80	.78	.76	.75			
Range-----	72 - 82	73 - 85	70 - 83	69 - 78	75 - 84	72 - 85	71 - 82	73 - 77			
Micronaire reading: 1/											
Average-----	4.5	4.4	4.3	3.9	4.5	4.3	4.0	3.5			
Range-----	3.7 - 5.0	3.6 - 4.8	3.4 - 5.0	3.2 - 4.3	4.4 - 4.8	3.2 - 5.4	3.2 - 4.5	3.0 - 4.1			
Fiber tensile strength (Pressley)											
1/8" Gauge (index): 2/											
Average-----	102	102	99	97	104	100	101	92			
Range-----	89 - 111	83 - 117	90 - 110	89 - 105	89 - 109	83 - 112	87 - 113	83 - 98			
Colorimeter grade designation: 3/											
Average-----	M	SIM	IM	SGO-	M	SIM+	SIM-	IM+			
Range-----	SM - SIM	M - IM	SIM - SGO	SGO - GO	SM - M	M - SIM	SIM - IM	SIM - IM			
Sugar content (percent):											
Average-----	0.2	0.3	0.1	0.1	0.2	0.2	0.2	0.2			
Range-----	0.1 - 0.5	0.0 - 0.5	0.0 - 0.2	0.0 - 0.3	0.1 - 0.5	0.0 - 0.5	0.1 - 0.3	0.1 - 0.3			
Acid-alkalinity value (pH units):											
Average-----	7.6	7.8	8.0	7.7	7.1	7.7	7.6	7.2			
Range-----	6.5 - 8.5	6.5 - 9.0	7.0 - 9.5	6.5 - 9.0	6.5 - 7.5	7.0 - 8.5	7.0 - 8.5	6.5 - 7.5			
Nonlint content (Shirley Analyzer):											
Number of samples-----	6	5	5	3	4	5	5	5			
Average-----	3.0	3.6	4.8	6.5	3.7	4.1	4.9	10.0			
Range-----	2.3 - 3.5	2.9 - 4.8	3.7 - 6.3	5.8 - 8.0	3.3 - 4.1	3.2 - 4.6	4.4 - 5.5	8.9 - 10.8			

Continued on page 40

- 1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 2.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, South Central area, crop of 1956--Continued

Item	Alexandria, Louisiana--Continued				Winnsboro, Louisiana			
Grade-----	SMltap	Mltap	SIMltap	SM	M	SIM	IM	
Number of samples-----	18	17	18	13	16	17	14	
Staple length (32nd inch):								
Average-----	32.9	32.4	32.7	33.8	33.8	33.7	33.7	
Range-----	31 - 34	30 - 34	31 - 33	33 - 35	33 - 34	32 - 34	33 - 34	
Fiber length (Fibrogaph)								
Upper half mean (inches):								
Average-----	.98	.96	.97	1.02	1.01	1.01	1.01	
Range-----	.88 - 1.06	.87 - 1.05	.87 - 1.08	.92 - 1.04	.98 - 1.06	.96 - 1.08	.91 - 1.10	
Uniformity ratio:								
Average-----	76	77	75	78	78	77	77	
Range-----	72 - 81	68 - 82	70 - 82	74 - 83	73 - 82	73 - 81	71 - 82	
Micronaire reading: $\frac{1}{1}$								
Average-----	4.5	4.6	4.4	4.8	4.6	4.7	4.5	
Range-----	3.4 - 5.0	4.2 - 5.2	3.6 - 5.0	4.2 - 5.2	3.8 - 5.4	3.6 - 5.2	3.7 - 5.4	
Fiber tensile strength (Pressley)								
$\frac{1}{8}$ " Gauge (index): $\frac{2}{2}$								
Average-----	102	97	97	101	99	102	100	
Range-----	90 - 113	83 - 104	79 - 108	90 - 112	91 - 107	93 - 109	92 - 109	
Colorimeter grade designation: $\frac{3}{3}$								
Average-----	Mltap	Mltap	SIMltap	M	SIM+	SIM-	IM	
Range-----	M - SIMtap	M - SIM	SIM - IM sp	M	M - SIM	SIM - IM	SIM - IM	
Sugar content (percent):								
Average-----	0.1	0.2	0.1	0.2	0.1	0.1	0.1	
Range-----	0.0 - 0.4	0.0 - 0.3	0.0 - 0.3	0.1 - 0.2	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2	
Acid-alkalinity value (pH units):								
Average-----	7.6	7.9	7.9	7.6	7.8	7.7	7.7	
Range-----	6.5 - 8.5	7.0 - 8.5	7.0 - 8.5	6.5 - 8.5	6.9 - 8.5	7.0 - 8.5	7.0 - 8.5	
Nonlint content (Shirley Analyzer):								
Number of samples-----	2	5	3	5	5	5	5	
Average-----	2.8	4.3	5.7	2.9	3.4	4.9	5.9	
Range-----	2.5 - 3.0	3.2 - 5.7	4.5 - 7.5	2.5 - 3.3	2.9 - 4.1	4.5 - 5.6	4.3 - 6.4	

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956

Item		Altus, Oklahoma									
Grade-----	SM	M	SLM	LM	SLM+	Map	SLMsp	LMsp			
Number of samples-----	20	25	19	14	12	22	24	12			
Staple length (32nd inch):											
Average-----	30.6	30.5	30.3	28.6	30.7	29.6	28.6	29.2			
Range-----	28 - 35	28 - 33	28 - 35	26 - 32	28 - 34	28 - 32	26 - 33	26 - 32			
Fiber length (Fibrograph)											
Upper half mean (inches):											
Average-----	.91	.92	.93	.90	.95	.92	.91	.91			
Range-----	.80 - 1.15	.90 - 1.06	.82 - 1.18	.82 - 1.08	.82 - 1.06	.82 - 1.04	.78 - 1.00	.81 - 1.06			
Uniformity ratio:											
Average-----	80	80	80	80	80	80	80	79			
Range-----	78 - 83	77 - 83	78 - 81	76 - 83	77 - 82	76 - 83	76 - 81	77 - 81			
Micronaire reading: 1/											
Average-----	4.3	4.0	4.1	3.9	4.1	3.8	3.7	3.6			
Range-----	3.3 - 5.2	3.2 - 5.0	3.4 - 5.0	2.9 - 4.8	2.9 - 4.8	2.9 - 5.0	2.6 - 4.7	2.8 - 4.8			
Fiber tensile strength (Pressley)											
1/80 Gauge (index): 2/											
Average-----	101	98	100	95	97	97	97	97			
Range-----	88 - 131	89 - 112	90 - 125	80 - 121	90 - 108	90 - 112	78 - 113	79 - 118			
Colorimeter grade designation: 3/											
Average-----	M+	M-	SLM-	LM	SLM+	SLMitsp	SLMsp	LMsp			
Range-----	SM - M	M - SLM	SLM - LM	SLM - SGO	M - SLM	M - SLMsp	SLMsp - LMtg	SLMsp - LMsp			
Sugar content (percent):											
Average-----	0.3	0.2	0.3	0.2	0.2	0.5	0.3	0.5			
Range-----	0.2 - 0.4	0.1 - 0.3	0.2 - 1.2	0.1 - 0.6	0.1 - 0.3	0.1 - 1.4	0.0 - 1.3	0.2 - 0.9			
Acid-alkalinity value (pH units):											
Average-----	6.4	6.4	6.3	6.2	6.3	6.2	6.2	6.2			
Range-----	6.1 - 7.0	6.0 - 7.0	6.0 - 6.7	5.8 - 6.6	5.8 - 6.8	5.6 - 7.0	5.8 - 6.7	5.8 - 6.9			
Nonlint content (Shirley Analyzer):											
Number of samples-----	5	5	4	5	5	4	4	4			
Average-----	2.7	3.5	4.3	7.9	4.8	3.9	5.9	8.5			
Range-----	2.4 - 3.4	2.8 - 5.2	3.3 - 5.5	5.6 - 11.1	4.2 - 7.2	3.6 - 4.0	5.1 - 7.7	7.3 - 10.0			

Continued on page 42

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item		Altus, Oklahoma - Continued									
Grade	SLMtsp	MLtsp	SLMtsp	LMltsp	SMtg	Mtg	SLMtsg	Mgr			
Number of samples	13	29	23	10	11	14	15	12			
Staple length (32nd inch):											
Average	30.5	30.1	30.4	29.4	28.2	27.9	28.3	27.3			
Range	28 - 33	26 - 33	28 - 34	28 - 33	24 - 31	26 - 30	26 - 30	26 - 30			
Fiber length (Fibrograph)											
Upper half mean (inches):											
Average	.93	.93	.94	.92	.91	.88	.90	.87			
Range	.78 - 1.08	.81 - 1.06	.83 - 1.08	.84 - 1.02	.81 - 1.00	.82 - .94	.78 - 1.00	.78 - 1.00			
Uniformity ratio:											
Average	80	80	80	80	79	79	80	79			
Range	78 - 82	76 - 82	77 - 83	77 - 82	77 - 80	78 - 80	76 - 82	77 - 81			
Micronaire reading: 1/											
Average	4.4	4.2	4.0	3.9	3.7	3.8	3.7	4.2			
Range	3.4 - 5.2	3.2 - 5.6	3.2 - 4.8	3.2 - 4.7	3.2 - 4.2	2.4 - 4.6	2.4 - 5.4	3.3 - 5.0			
Fiber tensile strength (Pressley)											
1/8" Gauge (index): 2/											
Average	97	100	101	98	98	95	97	93			
Range	92 - 103	90 - 114	92 - 115	93 - 102	90 - 110	88 - 101	87 - 103	82 - 101			
Colorimeter grade designation: 3/											
Average	M	SLM	SLMtsp	LMltsp	SLMsp	SLtsp	LMsp	SGO			
Range	SMsp - SLM	M - LM	M - LMsp	SLMtsp - LMsp	Msp - SLMtg	Mtg - SLMtg	Mtg - LMtg	LM - GO			
Sugar content (percent):											
Average	0.2	0.3	0.3	0.3	0.7	0.5	0.4	0.2			
Range	0.2 - 0.3	0.1 - 1.0	0.0 - 0.9	0.2 - 0.5	0.2 - 1.2	0.0 - 1.0	0.0 - 1.3	0.1 - 0.3			
Acid-alkalinity value (pH units):											
Average	6.3	6.4	6.3	6.2	6.1	6.1	6.2	6.1			
Range	6.0 - 6.7	6.0 - 7.0	5.7 - 6.8	5.8 - 6.8	5.6 - 6.6	5.6 - 6.9	5.7 - 6.8	5.7 - 6.4			
Nonlint content (Shirley Analyzer):											
Number of samples	4	5	4	3	2	1	3	4			
Average	3.3	4.5	7.6	5.8	3.6	4.5	6.8	6.7			
Range	2.9 - 3.6	3.9 - 4.8	4.9 - 10.7	5.3 - 6.3	3.5 - 3.8	-	5.2 - 7.7	5.0 - 7.5			

Continued on page 43

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Oklahoma City, Oklahoma											
	SM	M	SLM	LM	SGO	M+	SLM+	LM+				
Grade-----												
Number of samples-----	20	27	18	19	16	11	22	19				
Staple length (32nd inch):												
Average-----	29.8	29.5	29.5	30.1	30.1	31.4	30.8	31.0				
Range-----	26 - 32	26 - 34	28 - 33	28 - 32	28 - 31	29 - 33	28 - 34	28 - 34				
Fiber length (Fibrogaph)												
Upper half mean (inches):												
Average-----	.93	.91	.91	.93	.94	.99	.95	.98				
Range-----	.76 - 1.02	.80 - 1.08	.82 - 1.02	.87 - 1.06	.84 - 1.07	.84 - 1.09	.84 - 1.08	.83 - 1.08				
Uniformity ratio:												
Average-----	81	80	80	80	80	80	80	80				
Range-----	76 - 83	77 - 84	76 - 84	78 - 84	77 - 83	78 - 83	77 - 83	78 - 84				
Micronaire reading: 1/												
Average-----	4.2	4.1	3.7	3.7	3.8	4.3	3.8	3.7				
Range-----	3.3 - 4.9	3.4 - 5.2	2.8 - 4.6	3.2 - 4.2	2.9 - 4.3	3.2 - 5.2	2.9 - 5.0	3.1 - 4.5				
Fiber tensile strength (Pressley)												
1/8" Gauge (index): 2/												
Average-----	98	96	99	97	96	104	98	99				
Range-----	87 - 110	80 - 115	88 - 114	85 - 109	82 - 107	94 - 119	82 - 113	84 - 112				
Colorimeter grade designation: 2/												
Average-----	M	M-	SLM	LM+	LM	M+	SLM+	SLM				
Range-----	SM - SLM	M - SLM	M - SLM	SLM - LM	SLM - SGO	SM - M	M - SLM	M - SLM				
Sugar content (percent):												
Average-----	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3				
Range-----	0.1 - 0.4	0.1 - 0.3	0.1 - 0.5	0.1 - 0.4	0.1 - 0.3	0.1 - 0.4	0.1 - 0.7	0.2 - 0.4				
Acid-alkalinity value (pH units):												
Average-----	6.2	6.3	6.3	6.3	6.5	6.4	6.1	6.3				
Range-----	4.8 - 7.0	6.0 - 7.0	6.0 - 6.7	5.5 - 7.0	6.0 - 7.1	6.0 - 7.0	4.6 - 6.7	5.8 - 6.6				
Nonlint content (Shirley Analyzer):												
Number of samples-----	5	5	5	5	4	5	5	5				
Average-----	2.7	4.3	6.3	7.6	9.2	3.5	5.3	6.5				
Range-----	2.3 - 3.6	3.4 - 5.1	4.8 - 8.1	6.0 - 8.8	8.1 - 10.2	3.0 - 3.9	4.6 - 7.1	5.7 - 7.8				

Continued on page 44

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Oklahoma City, Oklahoma - Continued													
Item	SGO+	SMsp	Msp	SLMsp	LMsp	SLMtp	MLtp	SLMtp	MLtp	SLMtp	MLtp	SLMtp	MLtp
Number of samples-----	15	18	19	21	16	27	27	27	27	27	27	27	27
Staple length (32nd inch):													
Average-----	30.6	29.4	28.9	28.7	29.6	29.2	28.8	29.1	28.8	29.2	28.8	29.1	28.8
Range-----	28 - 33	28 - 31	28 - 30	26 - 31	28 - 32	26 - 32	24 - 33	26 - 31	24 - 33	26 - 32	24 - 33	26 - 31	24 - 33
Fiber length (Fibrograph)													
Upper half mean (inches):													
Average-----	.97	.88	.92	.89	.91	.90	.91	.90	.91	.90	.91	.90	.91
Range-----	.82 - 1.06	.84 - .95	.84 - 1.00	.75 - 1.00	.78 - 1.10	.81 - 1.04	.78 - 1.05	.81 - 1.04	.78 - 1.05	.81 - 1.04	.78 - 1.05	.81 - 1.04	.78 - 1.05
Uniformity ratio:													
Average-----	80	80	80	80	80	80	80	80	80	80	80	80	80
Range-----	78 - 81	77 - 84	76 - 83	76 - 84	78 - 83	78 - 82	76 - 83	78 - 82	76 - 83	78 - 82	76 - 83	78 - 82	76 - 83
Micronaire reading: 1/													
Average-----	3.9	4.1	4.1	4.3	4.1	4.1	4.0	4.1	4.0	4.1	4.0	4.1	4.0
Range-----	2.7 - 4.4	2.7 - 4.6	3.4 - 4.8	3.4 - 5.1	3.3 - 4.9	3.1 - 4.8	2.8 - 4.8	3.1 - 4.8	2.8 - 4.8	3.1 - 4.8	2.8 - 4.8	3.1 - 4.8	2.8 - 4.8
Fiber tensile strength (Pressley)													
1/8" Gauge (index): 2/													
Average-----	97	97	97	94	96	97	94	97	94	97	94	97	94
Range-----	85 - 106	81 - 108	92 - 103	82 - 102	79 - 112	88 - 111	78 - 111	88 - 111	78 - 111	88 - 111	78 - 111	88 - 111	78 - 111
Colorimeter grade designation: 3/													
Average-----	LM+	Msp	SLMtp	SLMsp	LMtp	M	SLM	M	SLM	M	SLM	M	SLM
Range-----	SLM - LM	SM - SLMsp	Msp - SLMtp	SLM - LMsp	SLMtp - LMtp	SM - SLM	M - SLMsp	SM - SLM	M - SLMsp	M - SLM	M - SLMsp	M - SLM	M - SLMsp
Sugar content (percent):													
Average-----	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Range-----	0.1 - 0.3	0.0 - 0.6	0.1 - 0.5	0.1 - 0.2	0.0 - 0.6	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3
Acid-alkalinity value (pH units):													
Average-----	6.3	6.3	6.2	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Range-----	4.7 - 7.1	5.5 - 7.0	5.8 - 6.7	6.0 - 6.8	6.0 - 7.0	6.0 - 7.0	6.0 - 7.1	6.0 - 7.0	6.0 - 7.1	6.0 - 7.0	6.0 - 7.1	6.0 - 7.0	6.0 - 7.1
Nonlint content (Shirley Analyzer):													
Number of samples-----	5	3	5	5	3	5	5	5	5	5	5	5	5
Average-----	9.0	3.7	4.7	6.0	9.3	4.1	4.7	4.1	4.7	4.1	4.7	4.1	4.7
Range-----	7.5 - 10.8	3.5 - 3.9	3.9 - 5.0	5.4 - 6.9	8.4 - 10.8	3.5 - 4.9	4.2 - 5.0	3.5 - 4.9	4.2 - 5.0	3.5 - 4.9	4.2 - 5.0	3.5 - 4.9	4.2 - 5.0

Continued on page 45

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Oklahoma City, Oklahoma - Continued				Abilene, Texas			
Grade-----	LM1tp	Mtg	SLMtg	GM	SM	M	SLM	LM
Number of samples-----	16	11	9	28	31	32	29	22
Staple length (32nd inch):								
Average-----	28.9	28.5	28.8	34.6	33.0	31.4	31.1	31.0
Range-----	26 - 32	26 - 30	28 - 30	26 - 37	28 - 36	26 - 35	26 - 35	28 - 37
Fiber length (Fibrogaph)								
Upper half mean (inches):								
Average-----	.92	.88	.90	1.09	1.02	.98	.99	.99
Range-----	.70 - 1.10	.81 - .93	.79 - .96	.84 - 1.19	.87 - 1.13	.80 - 1.12	.84 - 1.18	.79 - 1.14
Uniformity ratio:								
Average-----	81	81	80	80	81	80	80	80
Range-----	79 - 85	76 - 85	76 - 84	77 - 83	79 - 84	78 - 82	78 - 82	77 - 83
Micronaire reading: 1/								
Average-----	3.8	3.9	3.8	4.2	4.3	4.2	4.0	3.7
Range-----	2.6 - 5.0	3.0 - 4.2	3.0 - 4.2	3.8 - 4.6	3.4 - 5.8	3.4 - 5.1	3.0 - 4.7	2.4 - 4.6
Fiber tensile strength (Pressley)								
1/8" Gauge (index): 2/								
Average-----	98	94	95	123	113	107	104	104
Range-----	86 - 113	90 - 98	88 - 104	86 - 137	89 - 132	86 - 131	91 - 124	85 - 129
Colorimeter grade designation: 3/								
Average-----	LM1tp	SLMtg	LMsp	SM	SM-	M	SLM+	LM+
Range-----	SLM - SGO	SLMtp - LMsp; SLMtg - LMtg		GM - SM	SM - M	SM - M	M - SLM	SLM - LM
Sugar content (percent):								
Average-----	0.2	0.4	0.4	0.3	0.2	0.3	0.3	0.3
Range-----	0.1 - 0.3	0.1 - 0.8	0.1 - 0.9	0.1 - 0.5	0.1 - 0.3	0.1 - 0.7	0.2 - 0.7	0.1 - 0.9
Acid-alkalinity value (pH units):								
Average-----	6.2	6.2	6.1	6.4	6.5	6.4	6.3	6.1
Range-----	5.8 - 6.7	5.7 - 7.0	5.8 - 6.3	6.1 - 7.0	6.0 - 7.0	5.6 - 7.0	5.8 - 7.0	5.5 - 7.0
Nonlint content (Shirley Analyzer):								
Number of samples-----	4	3	1	5	5	5	5	5
Average-----	7.8	3.4	8.9	2.0	2.0	3.3	5.1	7.2
Range-----	7.0 - 8.2	2.9 - 3.9	-	1.7 - 2.6	1.8 - 2.2	2.4 - 4.0	4.1 - 5.8	5.8 - 9.6

Continued on page 46

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pringley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item		Abilene, Texas - Continued											
Grade-----	M+	SLM+	LM+	SGO+	SLMsp	Msp	SLMsp	LMsp					
Number of samples-----	23	26	26	9	17	35	27	14					
Staple length (32nd inch):													
Average-----	32.5	32.1	30.7	33.4	28.4	27.7	27.0	27.0					
Range-----	29 - 36	28 - 36	26 - 35	28 - 35	28 - 31	24 - 33	26 - 29	26 - 30					
Fiber length (Fibroglyph)													
Upper half mean (inches):													
Average-----	1.01	1.01	1.00	1.10	.87	.86	.86	.86					
Range-----	.78 - 1.16	.95 - 1.17	.82 - 1.18	.90 - 1.18	.73 - 1.03	.70 - 1.05	.72 - 1.20	.77 - 1.04					
Uniformity ratio:													
Average-----	80	80	80	80	80	79	78	78					
Range-----	77 - 84	78 - 83	78 - 82	79 - 81	77 - 83	76 - 81	76 - 81	75 - 80					
Micronaire reading: 1/													
Average-----	4.3	4.3	3.8	3.5	4.2	3.9	3.9	3.8					
Range-----	3.7 - 4.8	3.2 - 5.1	2.9 - 4.6	7.8 - 8.1	3.3 - 5.8	2.7 - 4.5	3.2 - 8.1	2.8 - 4.5					
Fiber tensile strength (Pressley)													
1/8" Gauge (index): 2/													
Average-----	110	104	103	107	94	89	90	89					
Range-----	91 - 137	84 - 126	89 - 139	93 - 117	82 - 106	67 - 113	82 - 129	81 - 107					
Colorimeter grade designation: 3/													
Average-----	M	M-	SLM+	LM+	Msp	Msp	SLMsp	LMsp					
Range-----	SM - SLM	M - SLM	M - SLM	SLM - LM	M - SLMsp	M - SLMsp	Msp - LMsp	SLM - LMsp					
Sugar content (percent):													
Average-----	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2					
Range-----	0.0 - 0.3	0.1 - 0.7	0.2 - 0.5	0.2 - 0.6	0.2 - 0.9	0.1 - 0.8	0.1 - 0.8	0.2 - 0.3					
Acid-alkalinity value (pH units):													
Average-----	6.4	6.3	6.2	6.3	6.1	6.2	6.1	6.1					
Range-----	5.2 - 7.0	6.0 - 7.0	5.8 - 7.0	6.0 - 6.6	5.6 - 6.5	5.8 - 6.9	5.7 - 7.0	5.7 - 6.7					
Nonlint content (Shirley Analyzer):													
Number of samples-----	5	5	5	5	3	4	5	4					
Average-----	3.4	3.9	7.5	10.2	3.4	4.9	5.4	8.8					
Range-----	2.3 - 6.1	3.5 - 4.4	5.4 - 8.9	8.0 - 12.3	3.0 - 3.8	3.9 - 5.9	4.2 - 6.6	6.3 - 13.0					

Continued on page 47

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Abilene, Texas - Continued													
Item	OMtsp	SMtsp	Mtsp	SLMtsp	LMtsp	SMtg	Mtg	SLMtg					
Grade-----													
Number of samples-----	25	37	37	24	13	12	16	17					
Staple length (32nd inch):													
Average-----	28.9	29.0	28.5	28.5	27.4	29.6	27.5	26.1					
Range-----	26 - 31	26 - 33	26 - 34	26 - 32	26 - 30	28 - 34	26 - 29	24 - 28					
Fiber length (Fibrogaph)													
Upper half mean (inches):													
Average-----	.89	.90	.89	.90	.90	.98	.88	.88					
Range-----	.82 - 1.05	.82 - 1.11	.75 - 1.06	.83 - 1.04	.82 - 1.06	.83 - 1.12	.81 - 1.05	.76 - 1.00					
Uniformity ratio:													
Average-----	80	79	79	79	78	80	79	78					
Range-----	77 - 82	76 - 82	77 - 83	77 - 81	74 - 79	79 - 81	77 - 81	75 - 80					
Micronaire reading: 1/													
Average-----	4.1	4.1	4.0	3.9	3.8	3.4	3.7	3.6					
Range-----	3.6 - 4.7	3.4 - 6.0	2.9 - 4.6	2.9 - 4.6	2.7 - 4.4	2.8 - 4.2	2.8 - 4.7	2.6 - 4.4					
Fiber tensile strength (Pressley)													
1/8" Gauge (index): 2/													
Average-----	98	98	94	96	94	103	93	93					
Range-----	83 - 120	84 - 118	72 - 115	79 - 116	83 - 121	84 - 119	85 - 113	81 - 102					
Colorimeter grade designation: 3/													
Average-----	N+	M	Mtsp	SLMtsp	LMtsp	Msp	SLMsp	LMsp					
Range-----	SM M	M - SLM	SM - SLMsp	M - LMsp	LM - LMsp	Msp - SLMtg	Msp - SLMtg	SLMtsp - LMtg					
Sugar content (percent):													
Average-----	0.2	0.2	0.3	0.2	0.2	0.6	0.6	0.6					
Range-----	0.2 - 0.3	0.1 - 0.3	0.1 - 0.8	0.1 - 0.5	0.1 - 0.7	0.2 - 1.3	0.2 - 1.2	0.2 - 1.3					
Acid-alkalinity value (pH units):													
Average-----	6.4	6.3	6.2	5.8 - 7.5	6.2	6.0	6.0	5.9					
Range-----	6.0 - 6.7	5.7 - 6.8	5.3 - 7.0	5.8 - 7.5	5.9 - 6.4	5.4 - 6.5	5.4 - 6.4	5.4 - 6.3					
Nonlint content (Shirley Analyzer):													
Number of samples-----	5	5	5	5	5	5	5	5					
Average-----	2.5	3.2	4.8	5.3	7.7	3.8	4.8	7.2					
Range-----	2.1 - 2.8	2.9 - 3.6	3.4 - 6.2	5.0 - 5.8	5.5 - 9.0	3.1 - 5.3	4.0 - 5.6	4.0 - 9.7					

Continued on page 48

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Abilene, Texas -		Austin, Texas									
	Continued											
Grade-----	LMtg											
Number of samples-----	15											
Staple length (32nd inch):												
Average-----	26.4											
Range-----	24 - 31											
Fiber length (fibrograph)												
Upper half mean (inches):												
Average-----	.90											
Range-----	.84 - 1.00											
Uniformity ratio:												
Average-----	75											
Range-----	71 - 80											
Micronaire reading: 1/												
Average-----	2.9											
Range-----	2.4 - 3.9											
Fiber tensile strength (Pressley)												
1/8" Gauge (index): 2/												
Average-----	92											
Range-----	84 - 110											
Colorimeter grade designation: 3/												
Average-----	LMtg											
Range-----	SLMtg - LMtg											
Sugar content (percent):												
Average-----	0.6											
Range-----	0.1 - 1.0											
Acid-alkalinity value (pH units):												
Average-----	6.0											
Range-----	5.5 - 7.1											
Nonlint content (Shirley Analyzer):												
Number of samples-----	4											
Average-----	9.7											
Range-----	7.5 - 10.9											

Continued on page 49

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Austin, Texas - Continued									
	M+	SLM+	L+	SGO+	SMsp	Msp	SLMsp	LMsp		
Grade-----										
Number of samples-----	21	26	27	19	12	24	18	18		
Staple length (32nd inch):										
Average-----	32.8	32.7	32.2	31.0	26.8	28.5	29.3	30.0		
Range-----	30 - 37	30 - 35	29 - 34	28 - 33	26 - 29	26 - 33	26 - 33	28 - 32		
Fiber length (Fibroglyph)										
Upper half mean (inches):										
Average-----	1.04	1.04	1.04	1.00	.89	.92	.96	.98		
Range-----	.98 - 1.16	.88 - 1.11	.87 - 1.18	.89 - 1.14	.79 - .98	.82 - 1.08	.88 - 1.02	.90 - 1.06		
Uniformity ratio:										
Average-----	81	80	80	80	79	80	79	79		
Range-----	78 - 84	77 - 83	77 - 82	78 - 83	78 - 81	77 - 82	76 - 81	76 - 81		
Micronaire reading: 1/										
Average-----	4.5	4.2	4.1	3.6	3.9	4.1	3.5	3.5		
Range-----	3.8 - 5.6	3.1 - 5.0	3.0 - 5.0	2.7 - 4.6	3.2 - 4.9	3.6 - 4.9	2.7 - 4.2	2.7 - 4.8		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	106	105	104	101	94	96	93	96		
Range-----	94 - 126	93 - 111	87 - 114	87 - 119	86 - 103	81 - 111	81 - 103	86 - 108		
Colorimeter grade designation: 3/										
Average-----	M+	M-	SLM	LM+	SM	Msp	SLMsp	LMsp		
Range-----	SM - M	M - SLM	M - LM	SLM - LM	GM - Msp	SM - SLMsp	Msp - LMsp	SLM - SGO		
Sugar content (percent):										
Average-----	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.2		
Range-----	0.1 - 0.5	0.1 - 0.7	0.0 - 0.4	0.0 - 0.3	0.1 - 0.3	0.0 - 0.5	0.1 - 0.3	0.0 - 0.3		
Acid-alkalinity value (pH units):										
Average-----	6.6	6.5	6.7	6.5	6.2	6.3	6.3	6.4		
Range-----	6.0 - 7.0	6.0 - 7.0	5.5 - 7.5	6.0 - 6.8	5.9 - 7.1	5.9 - 6.9	5.8 - 6.8	6.0 - 7.1		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	5	5	5	5		
Average-----	3.6	4.3	6.0	7.9	3.7	4.7	7.4	8.9		
Range-----	2.3 - 4.3	3.7 - 5.3	4.8 - 8.0	6.0 - 8.8	2.3 - 4.6	3.0 - 7.4	6.2 - 8.8	8.6 - 9.3		

Continued on page 50

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Austin, Texas - Continued				Corpus Christi, Texas			
Grade-----	SMltsp	Mltsp	SLMltsp	LMltsp	SM	M	SLM	SLM+
Number of samples-----	27	28	28	23	9	15	16	12
Staple length (32nd inch):								
Average-----	28.5	29.8	29.7	30.3	32.4	31.0	31.3	32.1
Range-----	26 - 33	26 - 33	26 - 33	26 - 32	30 - 34	29 - 33	29 - 33	31 - 35
Fiber length (Fibrograph)								
Upper half mean (inches):								
Average-----	.88	.94	.96	.98	.98	.94	.93	.95
Range-----	.75 - 1.00	.75 - 1.14	.80 - 1.08	.84 - 1.10	.86 - 1.05	.86 - 1.03	.84 - 1.00	.85 - 1.10
Uniformity ratio:								
Average-----	.80	.79	.80	.79	.79	.80	.81	.80
Range-----	77 - 84	77 - 83	77 - 83	76 - 82	77 - 81	78 - 82	79 - 83	79 - 83
Micronaire reading: 1/								
Average-----	4.3	4.1	3.8	3.5	4.0	4.1	4.2	3.9
Range-----	3.4 - 5.0	2.9 - 5.0	2.9 - 4.8	2.7 - 4.2	3.8 - 4.2	3.6 - 4.7	3.5 - 4.6	3.4 - 5.1
Fiber tensile strength (Pressley)								
1/8" Gauge (index): 2/								
Average-----	94	98	99	97	107	101	101	100
Range-----	81 - 103	82 - 108	76 - 113	79 - 109	95 - 132	90 - 120	86 - 112	92 - 113
Colorimeter grade designation: 3/								
Average-----	M	M-	SLM	LM	SM-	M	SLM+	SLM+
Range-----	SM - SLM	M - LM	M - LM	SLM - SGO	SM - M	SM - M	M - SLM	M - SLM
Sugar content (percent):								
Average-----	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3
Range-----	0.1 - 0.8	0.1 - 0.5	0.1 - 0.5	0.0 - 0.3	0.2 - 0.4	0.2 - 0.4	0.2 - 0.5	0.2 - 0.5
Acid-alkalinity value (pH units):								
Average-----	6.3	6.2	6.3	6.4	6.5	6.5	6.6	6.5
Range-----	5.9 - 7.0	5.5 - 6.6	5.5 - 7.1	5.5 - 8.0	6.5 - 6.5	7.5 - 6.0	6.0 - 7.1	6.0 - 7.0
Nonlint content (Shirley Analyzer):								
Number of samples-----	5	5	5	5	5	5	5	5
Average-----	4.1	3.6	6.1	9.6	2.6	2.7	4.1	3.9
Range-----	2.9 - 6.5	2.8 - 4.5	3.2 - 8.4	7.5 - 11.8	2.1 - 2.8	2.0 - 3.6	3.0 - 5.2	3.0 - 4.9

Continued on page 51

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Dallas, Texas									
	SM	M	SLM	LM	M+	SLM+	LM+	Msp		
Grade-----										
Number of samples-----	38	45	36	20	32	25	15	24		
Staple length (32nd inch):										
Average-----	29.7	30.4	29.8	30.6	30.1	29.4	30.2	28.4		
Range-----	26 - 35	26 - 34	25 - 33	26 - 33	28 - 34	26 - 34	26 - 33	26 - 31		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	.91	.95	.93	.96	.93	.92	.96	.88		
Range-----	.82 - 1.08	.79 - 1.12	.78 - 1.05	.75 - 1.08	.81 - 1.08	.81 - 1.08	.78 - 1.09	.78 - 1.01		
Uniformity ratio:										
Average-----	80	80	80	80	80	80	80	79		
Range-----	77 - 83	77 - 82	78 - 83	78 - 82	77 - 83	77 - 83	77 - 82	76 - 82		
Micronaire reading: 1/										
Average-----	4.4	4.1	4.2	4.0	4.1	3.9	4.0	4.1		
Range-----	3.5 - 5.4	3.4 - 4.8	3.3 - 5.0	3.2 - 4.9	3.2 - 5.3	3.3 - 4.7	2.9 - 4.6	3.2 - 4.6		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	96	100	96	98	98	97	98	90		
Range-----	83 - 109	87 - 109	78 - 111	80 - 110	89 - 112	86 - 108	85 - 112	75 - 106		
Colorimeter grade designation: 3/										
Average-----	SM-	M	SLM	LM+	M+	SLM+	SLM	SLMitsp		
Range-----	SM - M	SM - SLM	M - SLM	SLM - LM	SM - M	M - SLM	M - LM	SMsp - SLMsp		
Sugar content (percent):										
Average-----	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2		
Range-----	0.1 - 0.6	0.2 - 0.5	0.0 - 0.6	0.0 - 0.5	0.1 - 0.7	0.1 - 0.7	0.0 - 0.6	0.0 - 0.3		
Acid-alkalinity value (pH units):										
Average-----	6.4	6.5	6.5	6.7	6.4	6.3	6.5	6.3		
Range-----	5.9 - 7.3	6.0 - 7.2	5.8 - 7.6	5.5 - 7.7	5.9 - 7.2	5.5 - 7.2	5.9 - 7.2	5.7 - 7.0		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	5	5	5	5		
Average-----	3.3	4.4	6.8	6.9	3.8	6.2	6.6	5.6		
Range-----	2.8 - 3.8	3.4 - 5.6	3.7 - 10.6	5.7 - 8.1	3.0 - 4.6	4.9 - 7.0	5.2 - 9.0	3.4 - 8.8		

Continued on page 52

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956.--Continued

Item	Dallas, Texas - Continued					Harlingen, Texas				
	SLM _{sp}	SLM _{ltsp}	SLM _{ltsp}	SLM _{ltsp}	SLM _{ltsp}	SLM	M	SLM		
Grade-----	21	35	63	49	17	18	19	14		
Number of samples-----										
Staple length (32nd inch):										
Average-----	28.0	28.8	28.6	28.3	28.8	33.2	32.9	32.1		
Range-----	26 - 30	26 - 34	26 - 32	26 - 30	26 - 31	32 - 35	31 - 35	30 - 34		
Fiber length (Fibrograph)										
Upper half mean (inches):										
Average-----	.88	.89	.88	.87	.90	.99	.98	.96		
Range-----	.76 - 1.00	.81 - 1.02	.76 - 1.04	.76 - 1.00	.78 - 1.03	.92 - 1.06	.94 - 1.08	.91 - 1.11		
Uniformity ratio:										
Average-----	80	80	79	79	79	81	81	81		
Range-----	77 - 82	76 - 84	76 - 83	76 - 81	74 - 83	79 - 83	79 - 83	78 - 83		
Micronaire reading: 1/										
Average-----	4.2	4.3	4.2	4.2	3.9	4.4	4.0	3.7		
Range-----	2.8 - 5.2	2.8 - 5.0	3.0 - 5.4	3.0 - 5.4	2.9 - 5.3	3.5 - 5.0	3.4 - 5.0	2.9 - 4.4		
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	93	94	93	91	94	107	105	101		
Range-----	86 - 104	79 - 107	75 - 114	72 - 103	76 - 112	97 - 134	91 - 116	87 - 116		
Colorimeter grade designation: 3/										
Average-----	SLM _{sp}	M	MLT _{sp}	SLM _{ltsp}	LM _{ltsp}	SM	M	SLM		
Range-----	SLM - LM _{sp}	SM - SLM	SM _{sp} - SLM _{sp}	SLM - SLM	M - LM _{sp}	SM - M	SM - M	M - LM		
Sugar content (percent):										
Average-----	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3		
Range-----	0.0 - 0.6	0.2 - 0.7	0.1 - 0.6	0.0 - 0.5	0.0 - 0.4	0.2 - 0.5	0.2 - 0.4	0.2 - 0.4		
Acid-alkalinity value (pH units):										
Average-----	6.4	6.4	6.3	6.4	6.9	6.6	6.7	6.8		
Range-----	6.0 - 7.0	5.5 - 7.6	5.5 - 7.6	5.8 - 7.6	5.5 - 8.1	6.5 - 7.0	6.5 - 7.0	6.5 - 7.5		
Nonlint content (Shirley Analyzer):										
Number of samples-----	5	5	5	5	5	5	5	-		
Average-----	7.2	6.4	6.3	8.3	9.4	2.6	3.0	-		
Range-----	6.0 - 8.9	2.9 - 5.3	3.5 - 8.1	6.5 - 10.8	5.8 - 11.6	2.1 - 2.8	2.4 - 3.4	-		

Continued on page 53

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Harlingen, Texas - Continued										Lubbock, Texas									
	LM	SGO	M+	SLM+	LM+	SM	M	SLM												
Grade-----	LM	SGO	M+	SLM+	LM+	SM	M	SLM												
Number of samples-----	11	12	9	15	13	26	37	40												
Staple length (32nd inch):																				
Average-----	32.6	31.6	33.7	33.4	33.2	33.7	31.0	30.6												
Range-----	30 - 33	30 - 33	33 - 35	32 - 34	32 - 35	28 - 35	28 - 32	24 - 35												
Fiber length (Fibroglyph)																				
Upper half mean (inches):																				
Average-----	.99	.97	.98	.99	1.01	.98	.98	.97												
Range-----	.93 - 1.04	.86 - 1.05	.94 - 1.07	.92 - 1.08	.92 - 1.14	.80 - 1.16	.85 - 1.11	.79 - 1.08												
Uniformity ratio:																				
Average-----	81	80	81	80	80	80	80	79												
Range-----	77 - 82	79 - 82	79 - 82	78 - 83	76 - 82	78 - 84	76 - 84	72 - 82												
Micronaire reading: 1/																				
Average-----	3.6	3.5	4.2	3.7	3.5	3.9	4.0	3.8												
Range-----	2.5 - 4.6	2.8 - 4.0	3.6 - 4.6	2.8 - 4.2	2.6 - 4.4	3.0 - 4.6	3.2 - 5.0	2.8 - 4.9												
Fiber tensile strength (Pressley)																				
1/8" Gauge (index): 2/																				
Average-----	105	102	104	105	104	104	96	96												
Range-----	98 - 111	94 - 107	98 - 111	93 - 115	97 - 114	89 - 129	85 - 109	84 - 107												
Colorimeter grade designation: 3/																				
Average-----	LM+	SGO+	M+	M-	SLM	SM-	M	SLM+												
Range-----	SLM - LM	LM - SGO	SM - M	M - SLM	M - LM	SM - M	SM - SLM	M - SLM												
Sugar content (percent):																				
Average-----	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.3												
Range-----	0.1 - 0.5	0.1 - 0.4	0.2 - 0.4	0.2 - 0.4	0.1 - 0.4	0.1 - 0.8	0.1 - 0.7	0.2 - 0.8												
Acid-alkalinity value (pH units):																				
Average-----	6.8	6.8	6.7	6.6	6.7	6.4	6.4	6.2												
Range-----	6.0 - 7.0	6.5 - 7.5	6.5 - 7.0	6.5 - 7.0	6.0 - 7.5	5.8 - 6.8	6.0 - 7.0	5.7 - 6.6												
Nonlint content (Shirley Analyzer):																				
Number of samples-----	5	5	5	5	5	5	5	5												
Average-----	5.7	8.6	2.7	3.8	5.3	3.1	3.6	4.4												
Range-----	5.0 - 6.4	5.8 - 12.3	2.3 - 3.1	3.3 - 4.1	4.0 - 7.5	2.8 - 3.8	2.9 - 4.5	3.8 - 5.6												

Continued on page 54

- 1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item		Lubbock, Texas - Continued											
Grade	LM	SGO	GO	M+	SLM+	LM+	Msp	SIMsp					
Number of samples	29	19	11	17	22	11	19	21					
Staple length (32nd inch):													
Average	29.8	30.0	28.3	31.7	31.3	30.6	28.8	28.3					
Range	26 - 34	28 - 32	26 - 30	29 - 34	30 - 34	28 - 34	26 - 32	24 - 30					
Fiber length (Fibrograph)													
Upper half mean (inches):													
Average	.95	.99	.93	.99	.98	.97	.91	.90					
Range	.84 - 1.07	.92 - 1.06	.85 - 1.02	.88 - 1.07	.86 - 1.16	.84 - 1.06	.84 - 1.03	.80 - 1.00					
Uniformity ratio:													
Average	79	80	79	80	80	79	80	79					
Range	73 - 82	76 - 83	74 - 81	78 - 82	77 - 82	77 - 82	77 - 82	75 - 81					
Micronaire reading: 1/													
Average	3.8	3.9	3.4	4.0	3.8	3.7	3.4	3.4					
Range	2.7 - 4.6	3.2 - 4.6	2.7 - 4.1	3.1 - 4.8	3.1 - 4.5	2.7 - 4.6	2.8 - 4.2	2.8 - 4.8					
Fiber tensile strength (Pressley)													
1/8" Gauge (index): 2/													
Average	93	91	91	102	95	96	94	92					
Range	78 - 106	83 - 103	86 - 98	85 - 125	84 - 105	87 - 108	88 - 103	82 - 108					
Colorimeter grade designation: 3/													
Average	SLM-	LM-	SGO+	M+	SLM+	SIM	Msp	LM1sp					
Range	M - LM	SIM - SGO	LM - SGO	SM - M	M - SIM	M - SIM	Msp - SIMsp	SIM - LMsp					
Sugar content (percent):													
Average	0.2	0.1	0.2	0.3	0.2	0.1	0.7	0.6					
Range	0.2 - 0.5	0.1 - 0.7	0.2 - 0.6	0.1 - 0.3	0.2 - 0.7	0.3 - 0.6	0.2 - 1.0	0.2 - 0.9					
Acid-alkalinity value (pH units):													
Average	6.3	6.3	6.2	6.4	6.3	6.1	6.0	5.9					
Range	5.8 - 6.9	5.9 - 6.8	5.6 - 6.6	6.2 - 7.0	5.6 - 7.0	5.7 - 6.4	5.7 - 6.5	5.7 - 6.4					
Nonlint content (Shirley Analyzer):													
Number of samples	5	4	5	5	5	5	4	5					
Average	5.1	7.7	8.6	2.7	4.0	6.7	4.2	5.6					
Range	4.4 - 7.5	5.7 - 8.8	7.0 - 9.6	2.1 - 3.2	3.3 - 4.5	5.5 - 7.7	3.0 - 5.5	3.1 - 6.4					

Continued on page 55

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.---Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Lubbock, Texas - Continued										Waco, Texas	
	LMsp	SLMtp	MLtsp	SLMLtsp	LMltsp	Mtsp	SLMtsp	Mtsp	SLMtsp	SM		
Grade-----	20	24	38	38	28	14	10	17	17	SM		
Number of samples-----	20	24	38	38	28	14	10	17	17	SM		
Staple length (32nd inch):												
Average-----	28.6	30.8	30.3	30.2	28.7	26.8	26.5	29.0	26.5	29.0		
Range-----	26 - 32	28 - 33	28 - 33	26 - 33	26 - 32	26 - 29	26 - 29	28 - 32	26 - 29	28 - 32		
Fiber length (fibrograph)												
Upper half mean (inches):												
Average-----	.91	.97	.94	.96	.92	.86	.87	.89	.87	.89		
Range-----	.78 - 1.02	.86 - 1.06	.75 - 1.08	.79 - 1.16	.83 - 1.03	.78 - .92	.82 - 1.00	.77 - 1.04	.82 - 1.00	.77 - 1.04		
Uniformity ratio:												
Average-----	.78	.80	.80	.80	.79	.78	.78	.80	.78	.80		
Range-----	73 - 82	78 - 83	76 - 82	76 - 84	76 - 82	74 - 82	74 - 81	77 - 82	74 - 81	77 - 82		
Micronaire reading: 1/												
Average-----	3.5	4.2	3.8	3.8	3.6	3.0	2.8	4.3	2.8	4.3		
Range-----	2.4 - 4.3	3.4 - 4.6	3.2 - 5.0	2.9 - 4.6	2.6 - 4.5	2.5 - 3.6	2.4 - 3.3	3.7 - 5.2	2.4 - 3.3	3.7 - 5.2		
Fiber tensile strength (Pressley)												
1/8" Gauge (index): 2/												
Average-----	90	98	95	96	93	90	92	93	92	93		
Range-----	81 - 113	85 - 111	86 - 105	84 - 132	86 - 106	81 - 98	82 - 108	79 - 105	82 - 108	79 - 105		
Colorimeter grade designation: 3/												
Average-----	LMso	M	SLM	SLM-	LMltsp	Mtsp	SLMtsp	M	SLMtsp	M		
Range-----	SLMtsp - LMsp	SM - SLM	SM - SLMsp	M - LMsp	SLM - SGO	Msp - SLMtsp	SLMtsp - LMtsp	SM - M	SLMtsp - LMtsp	SM - M		
Sugar content (percent):												
Average-----	0.4	0.3	0.4	0.4	0.4	1.0	0.8	0.3	0.8	0.3		
Range-----	0.2 - 0.8	0.1 - 0.7	0.2 - 0.9	0.1 - 1.0	0.1 - 0.8	0.6 - 1.3	0.3 - 1.1	0.2 - 0.5	0.3 - 1.1	0.2 - 0.5		
Acid-alkalinity value (pH units):												
Average-----	6.2	6.4	6.3	6.2	6.1	5.8	6.0	6.3	6.0	6.3		
Range-----	5.8 - 6.7	5.9 - 7.0	5.8 - 7.0	5.8 - 7.0	5.8 - 6.6	5.7 - 6.0	5.7 - 7.0	6.0 - 6.5	5.7 - 7.0	6.0 - 6.5		
Nonlint content (Shirley Analyzer):												
Number of samples-----	5	5	5	5	5	4	5	4	5	4		
Average-----	9.0	4.3	3.7	5.5	8.9	6.2	7.6	3.0	7.6	3.0		
Range-----	8.0 - 9.9	3.3 - 7.7	2.6 - 4.7	4.6 - 6.6	7.0 - 9.6	4.9 - 7.8	6.7 - 9.1	2.7 - 3.2	6.7 - 9.1	2.7 - 3.2		

Continued on page 56

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 3.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Southwestern area, crop of 1956--Continued

Item	Waco, Texas - Continued									
	M	SLM	LM+	Msp	SLMtsp	MLtsp	SLMtsp			
Grade-----										
Number of samples-----	16	10	9	11	14	15				13
Staple length (32nd inch):										
Average-----	28.4	29.1	29.1	28.4	28.1	27.7				29.5
Range-----	28 - 30	26 - 33	28 - 33	26 - 32	26 - 30	26 - 30				26 - 33
Fiber length (fibrograph)										
Upper half mean (inches):										
Average-----	.87	.92	.92	.84 - 1.00	.86	.87				.93
Range-----	.82 - .91	.81 - 1.07	.86 - 1.06		.80 - .92	.75 - .94				.78 - 1.04
Uniformity ratio:										
Average-----	80	79	80	79	79	79				79
Range-----	78 - 83	76 - 80	78 - 81	77 - 81	77 - 83	76 - 81				77 - 82
Micronaire reading: 1/										
Average-----	4.1	3.9	4.2	3.8	4.2	3.9				3.9
Range-----	3.5 - 4.8	3.1 - 4.8	3.4 - 4.7	3.1 - 4.7	3.5 - 4.6	3.4 - 4.5				3.4 - 5.0
Fiber tensile strength (Pressley)										
1/8" Gauge (index): 2/										
Average-----	93	96	97	93	91	91				96
Range-----	86 - 111	79 - 111	91 - 109	76 - 103	84 - 100	81 - 102				84 - 107
Colorimeter grade designation: 3/										
Average-----	M	SLM+	SLM	Msp	M	MLtsp				SLMtsp
Range-----	all M	M - SLM	M - SLM	M - SLMsp	SM - SLM	M - SLMsp				M - SLMsp
Sugar content (percent):										
Average-----	0.3	0.2	0.2	0.2	0.3	0.2				0.2
Range-----	0.1 - 0.4	0.1 - 0.3	0.0 - 0.3	0.1 - 0.2	0.2 - 0.5	0.1 - 0.3				0.1 - 0.3
Acid-alkalinity value (pH units):										
Average-----	6.3	6.4	6.5	6.2	6.4	6.2				6.1
Range-----	5.9 - 6.5	5.8 - 7.5	6.0 - 7.5	5.7 - 6.7	6.1 - 6.5	6.0 - 6.5				6.0 - 6.5
Nonlint content (Shirley Analyzer):										
Number of samples-----	4	5	3	5	5	5				5
Average-----	4.0	5.3	6.9	4.2	3.8	3.2				6.7
Range-----	2.5 - 4.7	3.6 - 7.0	5.0 - 10.7	3.3 - 6.5	2.8 - 5.4	2.7 - 4.0				4.0 - 8.1

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards

Table 4.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Western area, crop of 1956

Item	El Paso, Texas				Pecos, Texas			
Grade-----	GM	SM	M		GM	SM	M	
Number of samples-----	16	23	17		15	18	13	
Staple length (32nd inch):								
Average-----	36.4	35.9	35.4		36.4	36.1	36.0	
Range-----	35 - 37	35 - 37	35 - 37		35 - 37	35 - 37	35 - 38	
Fiber length (fibrograph)								
Upper half mean (inches):								
Average-----	1.16	1.14	1.11		1.14	1.14	1.10	
Range-----	1.07 - 1.24	.98 - 1.24	1.02 - 1.22		1.06 - 1.22	1.04 - 1.26	.98 - 1.22	
Uniformity ratio:								
Average-----	79	79	78		79	79	78	
Range-----	76 - 83	75 - 82	74 - 80		76 - 80	75 - 82	74 - 81	
Micronaire reading: <u>1</u> /								
Average-----	3.9	3.8	3.8		4.0	4.0	4.1	
Range-----	3.4 - 4.2	3.4 - 4.4	2.9 - 4.5		3.4 - 4.2	3.6 - 4.6	3.6 - 4.4	
Fiber tensile strength (Pressley)								
1/8" Gauge (index): <u>2</u> /								
Average-----	117	115	114		119	119	115	
Range-----	107 - 132	107 - 127	92 - 129		111 - 132	106 - 136	103 - 124	
Colorimeter grade designation: <u>3</u> /								
Average-----	SM	SM	M		SM+	SM	M	
Range-----	GM - SM	SM - M	M		GM - SM	GM - M	M - SM	
Sugar content (percent):								
Average-----	0.4	0.4	0.4		0.3	0.4	0.3	
Range-----	0.3 - 0.6	0.2 - 0.6	0.2 - 0.9		0.2 - 0.4	0.2 - 0.6	0.2 - 0.5	
Acid-alkalinity value (pH units):								
Average-----	6.6	6.6	6.6		6.6	6.6	6.7	
Range-----	6.4 - 7.0	5.9 - 7.0	6.4 - 7.0		6.4 - 7.1	6.0 - 7.0	6.1 - 7.0	
Nonlint content (Shirley Analyzer):								
Number of samples-----	12	16	10		8	13	13	
Average-----	3.7	4.1	4.4		3.0	3.0	4.4	
Range-----	2.8 - 5.4	2.9 - 4.8	3.4 - 5.2		2.5 - 5.2	2.3 - 4.0	3.2 - 5.6	

Continued on page 58

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Presley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 4.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Western area, crop of 1956--Continued

Item	Pecos, Texas - Continued										Carlsbad, New Mexico									
Grade-----	SIM	SMTep	GM	SM	M	SIM	LM	Map												
Number of samples-----	8	10	12	18	22	23	9	13												
Staple length (32nd inch):																				
Average-----	35.1	35.5	36.5	36.0	34.2	33.2	32.0	30.3												
Range-----	34 - 36	35 - 36	36 - 37	35 - 37	29 - 36	28 - 35	30 - 34	26 - 37												
Fiber length (Fibrogaph)																				
Upper half mean (inches):																				
Average-----	1.06	1.12	1.14	1.11	1.05	1.04	1.05	.95												
Range-----	.98 - 1.12	1.08 - 1.18	1.06 - 1.22	1.04 - 1.20	.94 - 1.12	.90 - 1.14	.96 - 1.15	.82 - 1.18												
Uniformity ratio:																				
Average-----	78	79	78	78	77	76	74	77												
Range-----	76 - 81	76 - 81	75 - 83	73 - 82	71 - 81	72 - 80	72 - 75	72 - 81												
Micronaire reading: 1/																				
Average-----	3.9	4.0	4.0	3.8	3.5	3.5	3.0	3.6												
Range-----	3.6 - 4.2	3.6 - 4.2	3.7 - 4.3	3.3 - 4.2	3.0 - 4.4	2.8 - 4.7	2.6 - 3.4	2.7 - 4.0												
Fiber tensile strength (Pressley)																				
1/8" Gauge (index): 2/																				
Average-----	116	113	114	108	102	100	107	96												
Range-----	112 - 124	105 - 120	105 - 127	90 - 126	92 - 117	87 - 121	92 - 124	74 - 118												
Colorimeter grade designation: 3/																				
Average-----	SIM+	M	SM	SM+	M	SIM+	SIM+	SIMMap												
Range-----	M - SIM	SM - SIM	SM	SM - M	M	M - SIM	SIM - IM	Map - SIMap												
Sugar content (percent):																				
Average-----	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.4												
Range-----	0.3 - 0.6	0.2 - 0.6	0.2 - 0.4	0.2 - 0.6	0.3 - 0.7	0.2 - 0.9	0.3 - 0.7	0.1 - 0.9												
Acid-alkalinity value (pH units):																				
Average-----	6.7	6.7	6.6	6.7	6.5	6.5	6.7	6.6												
Range-----	6.4 - 7.4	6.0 - 7.0	6.2 - 7.0	6.4 - 7.2	6.0 - 7.0	6.0 - 7.0	6.1 - 7.0	6.1 - 7.5												
Nonlint content (Shirley Analyzer):																				
Number of samples-----	6	9	5	5	5	5	5	5												
Average-----	5.4	3.7	3.4	3.8	5.0	6.1	9.0	4.7												
Range-----	4.6 - 6.1	3.5 - 4.2	2.9 - 3.8	3.0 - 4.7	4.4 - 5.7	4.5 - 7.7	7.9 - 10.0	3.4 - 7.0												

Continued on page 59

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 4.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Western area, crop of 1956--Continued

Item	Carlsbad, New Mexico - Continued				Phoenix, Arizona			
Grade-----	SMItap	MLtap	SIMItap	SM	M	SIM	M+	SIM+
Number of samples-----	24	18	13	11	12	9	12	9
Staple length (32nd inch):								
Average-----	33.7	32.5	30.8	34	33.9	33.4	34.1	33.8
Range-----	28 - 36	28 - 34	26 - 27	34	33 - 34	33 - 34	34 - 35	33 - 34
Fiber length (Fibroglyph)								
Upper half mean (inches):								
Average-----	1.05	1.00	1.00	1.06	1.07	1.05	1.07	1.07
Range-----	.89 - 1.20	.91 - 1.08	.87 - 1.22	1.02 - 1.12	1.03 - 1.10	1.02 - 1.10	1.02 - 1.13	1.01 - 1.10
Uniformity ratio:								
Average-----	76	76	74	79	79	79	79	79
Range-----	71 - 80	70 - 83	69 - 79	75 - 81	77 - 83	75 - 81	76 - 81	77 - 81
Micronaire reading: <u>1/</u>								
Average-----	3.6	3.5	2.9	4.2	4.4	4.0	4.2	4.2
Range-----	3.0 - 4.2	2.4 - 4.4	Below 2.4-4.3	4.0 - 4.6	3.6 - 5.0	2.6 - 4.6	3.9 - 4.5	3.7 - 4.7
Fiber tensile strength (Pressley)								
<u>1/8" Gauge (index): <u>2/</u></u>								
Average-----	106	100	110	111	111	111	111	112
Range-----	87 - 130	87 - 114	90 - 126	101 - 121	105 - 118	106 - 125	105 - 119	106 - 120
Colorimeter grade designation: <u>3/</u>								
Average-----	M	M-	SIMItap	M+	M-	SIM	M+	SIM+
Range-----	SM - SIM	M - SIM	M - IMsp	SM - M	SIM - M	SIM	SM - M	M - SIM
Sugar content (percent):								
Average-----	0.5	0.4	0.5	0.3	0.2	0.3	0.3	0.3
Range-----	0.1 - 0.9	0.3 - 0.9	0.2 - 0.8	0.2 - 0.4	0.2 - 0.3	0.2 - 0.5	0.2 - 0.4	0.2 - 0.4
Acid-alkalinity value (pH units):								
Average-----	6.6	6.5	6.5	6.6	6.8	6.6	6.8	6.6
Range-----	6.0 - 7.0	6.0 - 6.9	5.9 - 7.0	6.3 - 7.0	6.5 - 7.2	6.3 - 6.8	6.3 - 7.0	6.4 - 6.9
Nonlint content (Shirley Analyzer):								
Number of samples-----	5	5	4	-	1	5	1	2
Average-----	4.4	5.4	8.3	-	4.2	6.4	3.7	6.0
Range-----	3.5 - 5.1	4.5 - 6.5	5.7 - 10.9	-	-	4.7 - 7.1	-	5.1 - 6.9

Continued on page 60

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 4.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Western area, crop of 1956--Continued

Item	Phoenix, Arizona - Continued				Bakersfield, California			
Grade-----	LMsp	SLM tsp	LM tsp	LMtg	SM	M	SLM	LM
Number of samples-----	9	9	9	9	31	34	39	20
Staple length (32nd inch):								
Average-----	30.9	32.4	31.0	30.7	34.1	34.3	34.1	33.4
Range-----	30. - 32	32 - 33	30 - 32	30 - 31	33 - 35	34 - 35	33 - 35	33 - 34
Fiber length (Fibrograph)								
Upper half mean (inches):								
Average-----	1.01	1.02	1.03	1.03	1.07	1.07	1.07	1.04
Range-----	.96 - 1.04	.94 - 1.08	.98 - 1.08	.98 - 1.08	1.00 - 1.14	1.02 - 1.14	1.00 - 1.14	.96 - 1.12
Uniformity ratio:								
Average-----	74	78	76	74	80	81	80	77
Range-----	70 - 77	76 - 80	71 - 79	71 - 76	75 - 82	78 - 84	72 - 84	70 - 82
Microaire reading: 1/								
Average-----	2.9	3.6	2.9	2.7	4.3	4.3	4.2	3.6
Range-----	2.6 - 3.0	3.2 - 4.1	2.6 - 3.2	2.4 - 2.9	3.6 - 4.4	3.1 - 5.0	3.3 - 4.8	2.7 - 4.2
Fiber tensile strength (Pressley)								
1/32" Gauge (index): 2/								
Average-----	107	108	107	105	111	114	112	109
Range-----	102 - 113	103 - 114	103 - 110	100 - 111	99 - 119	104 - 125	103 - 128	104 - 119
Colorimeter grade designation: 3/								
Average-----	LMsp	SLM	LM tsp	LMtg	M+	M	SLM	LM
Range-----	LMsp	SLM	SLM - LMsp	LMsp - LMtg	SM - M	SM - SLM	M - LM	SLM - SGO
Sugar content (percent):								
Average-----	-	-	-	-	0.3	0.3	0.3	0.3
Range-----	-	-	-	-	0.1 - 0.6	0.2 - 0.4	0.2 - 0.7	0.3 - 0.6
Acid-alkalinity value (pH units):								
Average-----	-	-	-	-	6.7	6.7	6.7	6.8
Range-----	-	-	-	-	6.3 - 7.0	6.3 - 7.0	6.1 - 7.0	6.3 - 6.7
Nonlint content (Shirley Analyzer):								
Number of samples-----	4	6	5	6	4	4	7	5
Average-----	9.3	5.9	8.9	10.5	2.2	3.6	5.1	7.7
Range-----	8.2 - 10.4	3.9 - 6.9	7.0 - 11.1	9.1 - 11.5	1.8 - 2.5	2.6 - 4.6	4.0 - 5.6	6.1 - 9.1

Continued on page 61

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 4.--Quality of commercially grown American Upland cotton: Average and range of properties by grade and specified classing office territory, Western area, crop of 1956--Continued

Item	Bakersfield, California - Continued										El Centro, California									
Grade-----	SLMtap	MLpr	SM	M	SLM	LM	LM+	Msp												
Number of samples-----	11	22	15	18	9	9	9	10												
Staple length (32nd inch):																				
Average-----	34.0	33.2	33.7	33.9	33.3	33.0	33.3	32.9												
Range-----	all 34	32 - 34	33 - 34	33 - 34	33 - 34	32 - 34	32 - 34	32 - 34												
Fiber length (Fibroglyph)																				
Upper half mean (inches):																				
Average-----	1.06	1.05	1.04	1.07	1.04	1.05	1.05	1.03												
Range-----	1.02 - 1.10	.98 - 1.10	.97 - 1.12	1.02 - 1.12	.99 - 1.10	1.00 - 1.09	1.02 - 1.08	.98 - 1.06												
Uniformity ratio:																				
Average-----	78	78	80	79	77	77	78	75												
Range-----	71 - 81	73 - 82	74 - 84	76 - 83	75 - 82	75 - 79	75 - 81	73 - 77												
Micronaire reading: 1/																				
Average-----	4.3	4.0	4.4	4.5	4.5	4.2	4.4	3.9												
Range-----	3.4 - 4.7	3.2 - 4.7	4.1 - 5.0	4.0 - 4.8	3.8 - 4.9	3.8 - 4.6	3.8 - 4.9	2.9 - 4.4												
Fiber tensile strength (Pressley)																				
1/8" Gauge (Index): 2/																				
Average-----	111	111	116	114	109	112	108	106												
Range-----	104 - 116	102 - 117	102 - 129	103 - 138	99 - 124	100 - 126	98 - 122	94 - 116												
Colorimeter grade designation: 3/																				
Average-----	LM+	LM	SM-	M	SLM	LM	SLM	Msp												
Range-----	SLM - LM	SLM - SGO	SM - M	M	SLM - LM	LM	SLM	M - SLMsp												
Sugar content (percent):																				
Average-----	0.3	0.2	0.3	0.2	0.3	0.4	0.3	0.6												
Range-----	0.2 - 0.3	0.1 - 0.4	0.2 - 0.4	0.1 - 0.4	0.2 - 0.3	0.3 - 0.5	0.2 - 0.3	0.3 - 0.9												
Acid-alkalinity value (pH units):																				
Average-----	6.8	6.8	6.6	6.7	6.6	6.4	6.5	6.4												
Range-----	6.4 - 7.0	6.2 - 7.4	6.4 - 6.6	6.3 - 7.5	6.4 - 6.7	6.2 - 6.6	6.3 - 6.9	6.1 - 6.6												
Nonlint content (Shirley Analyzer):																				
Number of samples-----	6	5	5	2	4	6	5	8												
Average-----	3.8	5.1	3.2	4.5	5.3	7.0	7.2	5.5												
Range-----	3.2 - 4.7	3.5 - 7.1	2.7 - 3.8	4.2 - 4.7	4.6 - 6.0	6.2 - 7.6	6.5 - 7.8	4.7 - 8.1												

Continued on page 62

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
 2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
 3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 4.--Quality of commercially grown American Upland cotton: Average and range of properties by grade and specified classing office territory, Western area, crop of 1956--Continued

Item	El Centro, California - Continued										Fresno, California									
Grade-----		SMltsp		Mltsp		SLMltsp		SM		M		SLM		LM		M+				
Number of samples-----		17		17		14		25		37		35		26		25				
Staple length (32nd inch):																				
Average-----		33.6		33.1		32.8		34.7		34.4		34.1		33.7		34.5				
Range-----		32 - 34		33 - 34		32 - 34		34 - 35		34 - 35		33 - 35		32 - 35		34 - 35				
Fiber length (Fibrogaph)																				
Upper half mean (inches):																				
Average-----		1.07		1.04		1.04		1.09		1.09		1.07		1.06		1.09				
Range-----		1.13 - 1.15		.98 - 1.07		1.00 - 1.10		1.00 - 1.14		1.00 - 1.16		.99 - 1.15		1.00 - 1.15		1.02 - 1.14				
Uniformity ratio:																				
Average-----		78		77		77		80		80		79		78		80				
Range-----		75 - 81		74 - 83		72 - 81		77 - 86		74 - 83		75 - 83		74 - 83		77 - 85				
Micronaire reading: 1/																				
Average-----		4.4		4.1		4.0		4.5		4.2		4.0		3.8		4.3				
Range-----		3.6 - 4.7		3.6 - 4.7		3.0 - 5.2		4.1 - 4.8		3.3 - 5.1		3.0 - 4.8		2.8 - 4.6		3.6 - 5.0				
Fiber tensile strength (Pressley)																				
1/8" Gauge (index): 2/																				
Average-----		108		111		107		113		113		111		110		114				
Range-----		91 - 120		97 - 122		97 - 119		106 - 125		105 - 123		104 - 120		103 - 115		107 - 119				
Colorimeter grade designation: 3/																				
Average-----		M		M-		SLMltsp		M+		M-		SLM		LM		M				
Range-----		SM - SLM		M - SLM		SLM - SLMsp		SM - M		M - SLM		M - LM		LM		M				
Sugar content (percent):																				
Average-----		0.2		0.3		0.6		0.3		0.3		0.3		0.3		0.2				
Range-----		0.0 - 0.3		0.2 - 0.5		0.5 - 0.7		0.2 - 0.5		0.2 - 0.9		0.1 - 0.9		0.2 - 0.5		0.1 - 0.3				
Acid-alkalinity value (pH units):																				
Average-----		7.0		6.6		6.4		6.6		6.8		6.8		6.8		6.9				
Range-----		6.3 - 8.0		6.2 - 7.0		6.1 - 6.6		6.0 - 7.1		6.1 - 7.2		5.9 - 7.1		5.9 - 7.4		6.2 - 7.3				
Nonlint content (Shirley Analyzer):																				
Number of samples-----		10		7		10		5		5		3		9		5				
Average-----		4.1		4.9		6.1		3.7		4.4		5.1		6.8		4.3				
Range-----		3.2 - 5.6		3.9 - 5.6		4.4 - 7.3		3.4 - 4.0		3.8 - 6.0		4.3 - 6.5		4.5 - 7.9		4.0 - 4.5				

Continued on page 63

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.
2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.
3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 4.--Quality of commercially grown American Upland cotton: Average and range of fiber properties by grade and specified classing office territory, Western area, crop of 1956--Continued

Item	Fresno, California - Continued	
Grade-----	SLM+	LM+
Number of samples-----	36	34
Staple length (32nd inch):		
Average-----	34.3	33.8
Range-----	34 - 35	32 - 35
Fiber length (Fibrograph)		
Upper half mean (inches):		
Average-----	1.08	1.05
Range-----	1.00 - 1.12	.97 - 1.16
Uniformity ratio:		
Average-----	79	78
Range-----	74 - 83	73 - 84
Micronaire reading: $\frac{1}{1}$		
Average-----	4.0	3.6
Range-----	3.0 - 5.0	2.7 - 4.3
Fiber tensile strength (Pressley)		
$\frac{1}{8}$ " Gauge (index): $\frac{2}{1}$		
Average-----	111	110
Range-----	103 - 121	97 - 117
Colorimeter grade designation: $\frac{3}{1}$		
Average-----	SLM+	SLM-
Range-----	M - SLM	SLM - LM
Sugar content (percent)		
Average-----	0.3	0.3
Range-----	0.2 - 0.7	0.2 - 0.7
Acid-alkalinity value (pH units)		
Average-----	6.7	6.8
Range-----	6.0 - 7.3	5.9 - 7.5
Nonlint content (Shirley Analyzer):		
Number of samples-----	6	9
Average-----	4.8	6.1
Range-----	4.3 - 6.2	4.6 - 7.1

1/ Fiber Fineness and Maturity in combination, based on the Upland Curvilinear scale.

2/ Index of 100 equals a Pressley Ratio of 3.19 which was the average strength of the 1954 crop.

3/ This is a descriptive comparison to indicate the general area of the color readings as compared with that obtained for the Official Grade Standards.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956

General area of growth 1/	Southeastern Area									
Grade 2/	SM*	SM**	M*	M**	SLM*	SLM**	LM*	LM**	SGO	
Staple length	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	
RAW COTTON QUALITY:										
Fiber length (Fibrograph):										
Upper half mean-----inches:	1.02	1.02	1.02	1.01	1.02	1.02	1.01	1.03	1.04	
Mean length-----" :	.83	.84	.80	.82	.84	.84	.78	.83	.80	
Uniformity ratio-----	81	82	78	81	82	82	77	81	77	
Fiber fineness and maturity:										
Micronaire-----reading 3/:	4.2	4.7	3.7	4.5	3.8	4.6	3.8	4.4	4.1	
Fineness (Causticair)-----ug/inch 4/:	4.2	4.7	3.8	4.6	3.6	4.5	3.6	4.4	4.1	
Maturity (Causticair)-----index 4/:	79	81	75	80	77	80	77	78	78	
Fiber tensile strength (Pressley):										
1/8" Gauge-----index 5/:	100	101	97	99	94	89	89	85	84	
Zero gauge-----1,000 p.s.i.:	82	84	80	84	80	76	81	85	71	
Nonlint content-----percent 6/:	2.0	2.3	3.0	2.9	4.5	4.0	5.6	5.3	8.5	
Sugar content-----percent:	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	
Acid-alkaline value-----pH units:	6.7	6.7	6.9	6.9	7.1	7.1	7.2	7.0	7.3	
Moisture regain-----percent 7/:	16.9	16.8	16.6	16.5	15.3	14.6	15.7	14.9	14.9	
PROCESSING RESULTS:										
Carding rate (lbs. per hour)-----	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	
Wt. fed first picker-----pounds:	4.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Picker and card waste-----percent:	7.00	6.70	7.14	7.10	8.77	8.74	10.70	10.41	12.44	
Neps in card web (per 100 sq. inches)-----	18	12	22	14	23	12	27	13	16	
YARN QUALITY:										
Yarn skein strength (grey):										
22s-----pounds:	118	114	119	115	117	111	113	107	102	
50s-----" :	41	39	43	41	41	38	40	37	35	
Average break factor-----8/:	2329	2232	2377	2282	2315	2187	2240	2100	1988	
Yarn appearance (grey):										
22s-----grade:	B	B+	B	B+	C+	B	C+	B	B	
50s-----" :	C+	B	C+	C+	C+	C+	C	C+	C+	
Average yarn appearance index-----9/:	105	115	105	110	100	105	95	105	105	
Color of 22s carded yarn:										
Grey:										
Reflectance-----Rd:	70.8	70.9	71.6	70.8	69.4	69.0	65.0	65.3	61.4	
Yellowness-----+b:	13.6	13.4	13.1	12.6	12.2	12.0	11.4	11.2	10.5	
Index-----10/:	107	105	105	103	99	97	87	87	78	
Bleached:										
Reflectance-----Rd:	85.2	84.6	84.9	84.0	84.6	83.6	83.8	81.2	81.0	
Yellowness-----+b:	3.8	3.6	3.7	3.7	4.0	3.8	4.4	3.9	3.6	
Index-----10/:	102	102	102	100	100	99	97	92	93	
Dyed after bleaching:										
Reflectance-----Rd:	28.1	28.8	27.2	28.7	29.4	29.5	30.6	30.1	30.6	
Blueness-----+b:	25.7	25.5	26.1	25.1	24.9	24.8	23.7	23.8	24.0	
Index-----10/:	100	98	104	97	95	95	87	89	89	

For footnotes see page 72.

Continued on page 65

* Below average Micronaire value.
** Above average Micronaire value.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956--Continued

General area of growth 1/	Southeastern Area									
Grade 2/	M+	SLM++	SLM+*	LM++	LM+*	SGO+	Msp	SLMsp	SMtsp	
Staple length	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	
RAW COTTON QUALITY:										
Fiber length (Fibrograph):										
Upper half mean-----inches:	1.02	1.04	1.02	1.02	1.02	1.01	1.02	1.00	1.00	
Mean length-----" :	.83	.86	.85	.81	.85	.80	.84	.82	.80	
Uniformity ratio-----:	81	83	83	79	83	79	82	82	80	
Fiber fineness and maturity:										
Micronaire-----reading 3/:	4.4	3.8	4.5	3.7	4.4	4.2	4.2	4.4	4.2	
Fineness (Causticair)-----up/inch 4/:	4.1	3.9	4.3	3.8	4.4	4.1	4.2	4.1	4.3	
Maturity (")-----index 4/:	81	76	81	75	79	78	78	80	77	
Fiber tensile strength (Pressley):										
1/8" Gauge-----index 5/:	100	93	94	94	93	84	102	94	103	
Zero gauge-----1,000 p.s.i.:	82	81	81	78	78	75	82	79	79	
Nonlint content-----percent 6/:	2.5	3.9	4.0	4.4	4.5	6.5	4.0	4.9	3.0	
Sugar content-----percent:	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	
Acid-alkaline value-----pH units:	6.6	6.9	7.0	7.2	7.3	6.8	7.1	7.3	6.7	
Moisture regain-----percent 7/:	16.5	16.3	15.8	15.8	15.2	14.9	16.0	14.6	16.6	
PROCESSING RESULTS:										
Carding rate (lbs. per hour)-----:	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	
Wt. fed first picker-----pounds:	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Picker and card waste-----percent:	6.95	8.13	8.13	9.51	9.22	11.83	7.99	9.59	6.94	
Neps in card web (per 100 sq. inches)-----:	12	19	10	27	14	25	12	10	13	
YARN QUALITY:										
Yarn skein strength (grey):										
22s-----pounds:	119	119	119	117	110	109	116	114	116	
50s-----" :	42	42	41	41	39	38	40	39	40	
Average break factor-----8/:	2356	2352	2329	2304	2186	2133	2275	2236	2274	
Yarn appearance (grey):										
22s-----grade:	D	F	F+	C+	C+	F	B	B+	B	
50s-----" :	C+	C+	C+	C	C+	C+	C+	C+	C+	
Average yarn appearance index-----9/:	105	105	110	95	100	105	105	110	105	
Color of 22s carded yarn:										
Grey:										
Reflectance-----Rd:	70.9	70.6	70.7	68.3	67.9	64.1	65.9	64.0	69.1	
Yellowness-----+b:	13.6	13.0	12.5	12.0	11.6	10.7	13.8	13.5	13.6	
Index-----10/:	107	104	102	96	94	83	98	92	104	
Bleached:										
Reflectance-----Rd:	85.2	85.6	84.0	83.8	82.5	82.0	80.6	79.2	83.8	
Yellowness-----+b:	3.8	3.8	3.6	4.3	3.7	4.0	8.1	8.7	4.8	
Index-----10/:	102	103	100	97	96	94	74	69	95	
Dyed after bleaching:										
Reflectance-----Rd:	27.0	27.7	28.0	30.6	30.3	31.1	29.0	28.8	28.4	
Blueness-----+b:	26.2	25.7	25.6	23.9	24.2	23.4	22.7	22.4	25.2	
Index-----10/:	104	101	100	89	90	88	87	86	98	

For footnotes see page 72.

Continued on page 66

* Below average Micronaire value.
 ** Above average Micronaire value.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956--Continued

General area of growth 1/	Southeastern Area					South Central Area				
	Grade 2/	MLtsp*	MLtsp**	SLMLtsp	LMltsp	Mpr	MLtpr	SM	M*	M**
Staple length		1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32
RAW COTTON QUALITY:										
Fiber length (Fibrograph):										
Upper half mean-----inches:		1.02	1.02	.99	1.02	1.03	1.03	1.00	1.03	1.00
Mean length-----"-----		.83	.84	.81	.79	.82	.83	.77	.81	.79
Uniformity ratio-----		81	82	82	77	80	81	77	79	79
Fiber fineness and maturity:										
Micronaire-----reading 3/:		4.0	4.5	4.2	4.2	4.2	4.1	4.4	4.2	4.8
Fineness (Causticaire)-----up/inch 4/:		3.5	4.5	3.9	4.1	4.2	4.1	4.5	4.1	4.8
Maturity (")-----index 5/:		76	80	81	79	76	78	78	78	81
Fiber tensile strength (Pressley):										
1/8" Gauge-----index 5/:		96	92	91	84	95	92	101	100	97
Zero gauge-----1,000 p.s.i.:		83	81	80	76	78	77	85	82	84
Nonlint content-----percent 6/:		3.5	3.4	4.8	5.5	4.2	3.1	2.0	3.2	3.4
Sugar content-----percent:		0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.3	0.2
Acid-alkaline value-----pH units:		7.1	7.1	7.2	7.0	7.0	7.3	6.9	6.8	7.0
Moisture regain-----percent 7/:		14.5	16.5	15.2	14.9	15.0	14.9	15.9	15.8	15.5
PROCESSING RESULTS:										
Carding rate (lbs. per hour)-----		9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Wt. fed first picker-----pounds:		5.00	5.00	5.00	5.00	5.00	4.98	7.32	7.63	5.80
Picker and card waste-----percent:		8.53	7.96	9.78	9.96	8.28	8.02	6.50	7.22	6.52
Neps in card web (per 100 sq. inches)-----		15	7	11	17	17	12	9	16	8
YARN QUALITY:										
Yarn skein strength (grey):										
22s-----pounds:		118	116	111	107	102	104	114	116	113
50s-----"-----		41	40	39	36	36	36	40	41	39
Average break factor-----2/:		2328	2265	2185	2087	2022	2052	2254	2301	2218
Yarn appearance (grey):										
22s-----grade:		F+	B+	B	C+	B	B	E+	B	E
50s-----"-----		C+	C+	C+	C+	C	C+	C+	C+	C
Average yarn appearance index-----9/:		110	110	105	100	100	105	110	105	100
Color of 22s carded yarn:										
Grey:										
Reflectance-----Rd:		68.0	68.0	66.0	62.4	59.0	64.3	70.9	70.2	69.4
Yellowness-----+b:		13.4	13.2	12.6	12.2	9.2	10.2	12.8	13.0	12.1
Index-----10/:		100	100	93	84	73	82	104	103	98
Bleached:										
Reflectance-----Rd:		83.1	82.5	82.0	80.7	74.5	80.5	84.0	83.8	83.0
Yellowness-----+b:		5.8	5.8	5.9	6.3	3.5	3.5	3.4	3.5	3.4
Index-----10/:		90	88	87	82	78	92	101	100	99
Dyed after bleaching:										
Reflectance-----Rd:		28.4	29.5	29.5	29.6	31.0	30.8	28.2	29.2	29.3
Blueness-----+b:		24.1	23.7	23.8	23.2	22.6	23.4	25.4	24.9	24.7
Index-----10/:		93	90	90	88	82	86	100	95	94

For footnotes see page 72.

Continued on page 67

* Below average Micronaire value.
** Above average Micronaire value.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956--Continued

General area of growth 1/	South Central Area								
Grade 2/	SLM*	SLM**	SLM***	LM*	LM**	LM***	SGO	GO	M*
Staple length	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32
RAW COTTON QUALITY:									
Fiber length (Fibrograph):									
Upper half mean-----inches:	1.02	1.03	1.01	1.01	1.01	.99	1.05	1.00	1.03
Mean length-----" :	.79	.81	.76	.75	.77	.77	.80	.76	.82
Uniformity ratio-----	77	79	75	74	76	78	76	76	80
Fiber fineness and maturity:									
Micronaire-----reading 3/:	3.6	4.2	4.8	3.8	4.2	4.5	4.0	3.9	4.6
Fineness (Causticaire)-----4/:	3.7	4.2	4.7	3.9	4.2	4.6	4.0	4.0	4.6
Maturity (")-----index 5/:	74	79	81	75	78	80	77	76	80
Fiber tensile strength (Pressley):									
1/8" Gauge-----index 5/:	94	94	93	94	95	94	93	93	101
Zero gauge-----1,000 p.s.i.:	77	78	81	81	79	84	81	75	82
Nonlint content-----percent 6/:	3.7	4.1	4.1	5.0	5.3	6.1	9.6	12.0	3.0
Sugar content-----percent:	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.3
Acid-alkaline value-----pH units:	6.9	7.1	7.2	7.0	7.2	7.2	7.0	6.9	6.7
Moisture regain-----percent 7/:	15.6	14.4	15.7	16.6	16.0	15.9	16.3	15.9	15.7
PROCESSING RESULTS:									
Carding rate (lbs. per hour)-----	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Wt. fed first picker-----pounds:	6.07	7.77	6.87	6.73	7.12	7.35	8.32	11.84	5.18
Picker and card waste-----percent:	7.01	8.15	8.20	10.02	10.18	10.72	12.44	14.46	7.06
Mats in card web (per 100 sq. inches)-----	14	13	6	21	17	13	21	25	13
YARN QUALITY:									
Yarn skein strength (grey):									
22s-----pounds:	115	112	112	112	110	110	111	105	115
50s-----" :	42	38	39	40	38	39	40	38	40
Average break factor-----8/:	2315	2182	2207	2232	2160	2185	2221	2116	2265
Yarn appearance (grey):									
22s-----grade:	C+	B	B+	C+	C+	C+	C+	C	B
50s-----" :	C	C+	C+	C	C	C	D+	D+	C+
Average yarn appearance index-----9/:	95	105	110	95	95	95	90	85	105
Color of 22s carded yarn:									
Grey:									
Reflectance-----Rd:	68.2	68.8	67.9	63.8	64.8	64.8	61.6	57.8	70.6
Yellowness-----+b:	12.2	12.1	11.8	11.2	11.8	11.8	11.0	10.2	12.8
Index-----10/:	96	97	94	84	88	88	80	73	103
Bleached:									
Reflectance-----Rd:	82.0	82.9	82.8	80.5	80.0	81.6	79.9	77.2	84.0
Yellowness-----+b:	3.8	3.7	3.5	3.6	3.8	4.0	4.0	4.1	3.1
Index-----10/:	27	27	28	32	32	33	39	32	102
Dyed after bleaching:									
Reflectance-----Rd:	29.6	29.0	30.6	29.8	30.4	29.8	29.6	30.6	28.4
Blueness-----+b:	24.1	24.6	23.8	23.7	23.7	24.5	23.3	22.6	25.2
Index-----10/:	91	94	88	89	88	92	88	83	98

For footnotes see page 72.

Continued on page 68

* Below average Micronaire value.

** Average Micronaire value.

*** Above average Micronaire value.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified gradea of American Upland cotton by designated geographical areas of tha United States, crop of 1956

General area of growth 1/	South Central Area									
Grade 2/	SLM+	LM**	LM***	S00+	G0+	SMitp	Mitp	SIMitp	Mitgr	
Staple length	1-1/3"	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	1-1/32	
RAW COTTON QUALITY:										
Fiber length (Fibrograph):										
Upper half mean-----inches:	1.02	1.02	1.00	1.01	1.00	1.02	1.00	1.02	1.00	
Mean length-----"-----	.80	.78	.79	.76	.76	.81	.79	.78	.76	
Uniformity ratio-----	78	76	79	75	76	79	79	76	76	
Fiber fineness and maturity:										
Micronaire-----reading 3/:	4.2	3.6	4.4	3.7	3.8	4.6	4.2	4.2	4.4	
Fineness (Causticaire)-----ug/inch 1/:	4.3	3.8	4.6	3.7	3.9	4.5	4.3	4.4	4.4	
Maturity (")-----index 1/:	77	74	79	75	75	82	78	76	80	
Fiber tensile strength (Pressley):										
1/8" Gauge-----index 5/:	96	97	96	94	99	98	99	96	95	
Zero gauge-----1,000 p.s.i.:	81	79	84	83	80	86	81	82	82	
Nonlint content-----percent 6/:	4.6	5.6	5.0	6.9	9.4	3.0	3.4	5.1	3.8	
Sugar content-----percent:	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Acid-alkaline value-----pH units:	6.9	6.9	7.1	6.8	7.0	6.9	6.9	7.1	7.2	
Moisture regain-----percent 7/:	15.9	16.7	15.9	17.2	16.5	15.6	15.7	15.9	14.9	
PROCESSING RESULTS:										
Carding rate (lbs. per hour)-----	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	
Wt. fed first picker-----pounds:	7.69	6.95	5.40	6.03	3.89**	5.05	6.82	7.69	5.00	
Picker and card waste-----percent:	7.84	9.38	9.58	12.08	15.09	7.62	8.30	8.92	7.71	
Neps in card web (per 100 sq. inches)-----	12	21	14	17	21	11	10	16	16	
YARN QUALITY:										
Yarn skein strength (grey):										
22s-----pounds:	116	114	112	115	114	114	112	112	108	
50s-----"-----	41	41	38	41	40	39	39	40	38	
Average break factor-----8/:	2301	2279	2182	2290	2254	2229	2207	2232	2138	
Yarn appearance (grey):										
22s-----grade:	B	C+	C+	C+	C	B	B	B	B	
50s-----"-----	C+	C	C+	C	D+	C+	C	C	C+	
Average yarn appearance index-----9/:	105	95	100	95	85	105	100	100	105	
Color of 22s carded yarn:										
Gray:										
Reflectance-----Rd:	69.2	67.0	67.8	65.8	65.6	68.0	67.8	63.4	62.9	
Yellowness-----Yb:	12.8	12.1	11.6	11.7	11.6	13.5	13.3	12.4	10.0	
Index-----10/:	101	93	93	89	88	101	100	86	80	
Bleached:										
Reflectance-----Rd:	84.0	81.8	82.4	82.1	80.6	83.2	83.4	80.6	77.6	
Yellowness-----Yb:	3.2	3.7	3.5	3.6	3.7	3.8	3.8	4.1	3.4	
Index-----10/:	102	95	97	96	92	98	98	90	86	
Dyed after bleaching:										
Reflectance-----Rd:	28.3	29.8	29.6	29.5	28.6	28.7	28.2	29.9	30.8	
Blueness-----b:	25.2	24.0	24.5	23.8	24.4	25.2	25.2	23.5	22.8	
Index-----10/:	98	90	93	91	95	97	98	88	84	

For footnotes see page 72.

Continued on page 69

1 Below average Micronaire value.

2 Above average Micronaire value.

3 Net weight fed first picker less than 5 pounds, therefore waste results not to be considered as reliable.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956--Continued

General area of growth 1/	Southwestern Area									
Grade 2/	SM	M	SLM	LM	Msp	SLMsp	SMitp*	SMitp**	MLtsp*	
Staple length	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	7/8	
RAW COTTON QUALITY:										
Fiber length (Fibrograph):										
Upper half mean-----inches:	.86	.88	.86	.86	.87	.84	.88	.86	.88	
Mean length-----"	.67	.68	.67	.64	.66	.65	.68	.68	.67	
Uniformity ratio-----	78	77	78	74	76	77	77	79	76	
Fiber fineness and maturity:										
Micronaire-----reading 3/:	4.2	4.0	4.0	3.9	4.0	4.0	3.8	4.6	3.9	
Fineness (Causticire)-----ug./inch 4/:	4.5	4.3	4.4	4.2	4.2	4.5	4.3	4.8	4.0	
Maturity (")-----index 4/:	74	76	74	74	76	73	73	78	75	
Fiber tensile strength (Pressley):										
1/8" Gauge-----index 5/:	86	87	88	83	87	82	89	87	84	
Zero gauge-----1,000 p.s.i.:	88	83	83	80	79	78	82	80	82	
Nonlint content-----percent 6/:	2.7	3.9	5.5	7.2	4.6	6.6	3.6	3.6	4.3	
Sugar content-----percent:	0.2	0.2	0.2	0.6	0.2	0.2	0.2	0.2	0.2	
Acid-alkaline value-----pH units:	6.6	6.5	6.4	6.3	6.5	6.5	6.5	6.6	6.3	
Moisture regain-----percent 7/:	16.9	16.8	17.5	17.7	17.6	16.8	17.0	16.9	18.0	
PROCESSING RESULTS:										
Carding rate (lbs. per hour)-----	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
Wt. fed first picker-----pounds:	5.39	6.69	5.60	5.57	6.59	6.26	6.63	5.55	5.88	
Picker and card waste-----percent:	7.71	9.39	10.17	11.50	9.08	10.74	8.28	8.54	9.51	
Neps in card web (per 100 sq. inches)-----	13	19	19	19	18	24	26	11	18	
ARN QUALITY:										
Yarn skein strength (grey):										
22s-----pounds:	100	100	101	97	99	96	99	95	100	
50s-----"	321	318	321	315	312	313	318	310	319	
Average break factor-----8/:	2384	2372	2395	2327	2337	2308	2361	2285	2376	
Yarn appearance (grey):										
22s-----grade:	C+	C+	C+	C	C	C	C+	B	C+	
50s-----"	B	C+	B	C+	B	C	B	B	C+	
Average yarn appearance index-----9/:	105	100	105	95	100	95	105	110	100	
Color of 22s carded yarn:										
Grey:										
Reflectance-----Rd:	68.9	67.0	66.6	63.7	62.4	59.8	67.2	66.4	66.2	
Yellowness-----*b:	14.2	13.9	13.8	12.8	14.2	13.7	14.3	13.8	14.4	
Index-----10/:	105	101	100	88	90	83	102	99	101	
Bleached:										
Reflectance-----Rd:	83.2	83.7	82.0	79.8	80.8	77.9	83.4	82.8	83.6	
Yellowness-----*b:	3.3	4.4	3.9	4.4	6.0	6.2	3.7	4.0	4.4	
Index-----10/:	100	96	94	87	83	76	98	96	96	
Dyed after bleaching:										
Reflectance-----Rd:	28.2	27.7	27.8	28.0	28.0	28.4	28.4	27.1	27.4	
Blueness-----*b:	25.0	25.1	25.3	24.5	24.0	23.0	25.0	26.0	25.2	
Index-----10/:	98	99	100	96	94	89	97	104	100	

For footnotes see page 72.

Continued on page 70

* Below average Micronaire value.
** Above average Micronaire value.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956--Continued

General area of growth 1/	Southwestern Area			Western Area					
	Mitsp**	SLMitsp	LMitsp	SM*	SM**	M*	M**	SLM*	SLM**
Grade 2/									
Staple length	7/8	7/8	7/8	1-1/16	1-1/16	1-1/16	1-1/16	1-1/16	1-1/16
RAW COTTON QUALITY:									
Fiber length (Fibrograph):									
Upper half mean-----inches:	.84	.87	.86	1.05	1.04	1.04	1.05	1.05	1.06
Mean length-----" :	.65	.66	.66	.83	.83	.81	.84	.81	.84
Uniformity ratio-----	77	76	77	79	80	78	80	77	79
Fiber fineness and maturity:									
Micronaire-----reading 3/:	4.6	4.1	3.8	4.0	4.5	4.0	4.6	3.4	4.4
Fineness (Causticaire)-----up/inch 4/:	4.8	4.3	4.2	4.2	4.6	4.2	4.5	3.6	4.4
Maturity (")-----index 4/:	78	76	73	77	79	77	80	72	78
Fiber tensile strength (Pressley):									
1/8" Gauge-----index 5/:	86	85	85	106	108	102	102	105	105
Zero gauge-----1,000 p.s.i.:	82	83	79	82	88	84	84	82	85
Nonlint content-----percent 6/:	4.9	6.0	8.3	2.2	2.6	3.2	3.2	4.4	4.1
Sugar content-----percent:	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.2
Acid-alkaline value-----pH units:	6.4	6.5	6.5	6.7	6.7	6.6	6.6	6.4	6.8
Moisture regain-----percent 7/:	16.9	16.4	17.9	17.1	16.5	17.3	16.8	18.0	16.7
PROCESSING RESULTS:									
Carding rate (lbs. per hour)-----	12.5	12.5	12.5	9.5	9.5	9.5	9.5	9.5	9.5
Wt. fed first picker-----pounds:	7.26	7.39	5.51	5.90	6.51	7.69	9.56	6.43	9.45
Picker and card waste-----percent:	10.55	10.54	13.50	6.80	7.14	8.29	7.98	9.12	8.52
Neps in card web (per 100 sq. inches)-----	12	21	42	15	9	16	12	31	19
YARN QUALITY:									
Yarn skein strength (grey):									
22s-----pounds:	94	99	96	125	128	124	126	123	123
50s-----" :	297	316	315	46	46	44	44	45	45
Average break factor-----8/:	2222	2353	2316	2525	2558	2464	2486	2478	2478
Yarn appearance (grey):									
22s-----grade:	B	C	C	C+	B	C+	C+	C+	C
50s-----" :	B+	C+	C	C	C+	D+	C	D+	C
Average yarn appearance index-----9/:	115	95	90	95	105	90	95	90	90
Color of 22s carded yarn:									
Grey:									
Reflectance-----Rd:	64.9	63.5	60.0	72.8	71.0	71.0	71.6	68.8	69.6
Yellowness-----+b:	14.1	13.4	13.7	12.7	11.6	12.0	12.2	12.2	12.0
Index-----10/:	96	90	83	106	100	101	102	97	98
Bleached:									
Reflectance-----Rd:	82.3	81.2	78.2	84.4	81.6	84.2	84.5	82.8	82.9
Yellowness-----+b:	4.2	4.7	5.9	2.9	2.9	3.6	3.4	3.8	3.6
Index-----10/:	94	89	78	104	97	101	102	97	98
Dyed after bleaching:									
Reflectance-----Rd:	27.8	28.6	27.6	27.6	26.4	27.1	27.6	26.5	27.4
Blueness-----+b:	25.0	24.2	23.6	25.5	26.5	25.6	25.8	25.4	25.6
Index-----10/:	98	93	93	101	107	102	103	103	101

For footnotes see page 72.

Continued on page 71

* Below average Micronaire value.
** Above average Micronaire value.

Table 5.--Results of fiber tests, carded yarn processing tests, and chemical finishing tests for specified grades of American Upland cotton by designated geographical areas of the United States, crop of 1956--Continued

General area of growth 1/	Western Area			
	LM	M+	SLM+	LM+
Grade 2/				
Staple length	1-1/16	1-1/16	1-1/16	1-1/16
RAW COTTON QUALITY:				
Fiber length (Fibrograph):				
Upper half mean-----inches:	1.06	1.05	1.06	1.06
Mean length-----"-----	.81	.83	.84	.84
Uniformity ratio-----	76	79	79	79
Fiber fineness and maturity:				
Micronaire-----reading 3/:	3.6	4.5	4.3	3.8
Fineness (Causticaire)-----ug/inch 4/:	3.8	4.5	4.3	3.9
Maturity (")-----index 5/:	73	80	79	75
Fiber tensile strength (Pressley):				
1/8" Gauge-----index 5/:	102	106	108	104
Zero gauge-----1,000 p.s.i.:	82	86	85	82
Nonlint content-----percent 6/:	6.8	3.2	4.4	5.7
Sugar content-----percent:	0.3	0.2	0.3	0.3
Acid-alkaline value-----pH units:	6.5	6.7	6.5	6.5
Moisture regain-----percent 7/:	18.0	17.2	17.4	17.7
PROCESSING RESULTS:				
Carding rate (lbs. per hour)-----	9.5	9.5	9.5	9.5
Wt. fed first picker-----pounds:	6.81	6.70	7.42	5.20
Picker and card waste-----percent:	11.77	7.87	9.00	10.84
Neps in card web (per 100 sq. inches)-----	25	11	17	20
YARN QUALITY:				
Yarn skein strength (grey):				
22s-----pounds:	124	124	128	124
50s-----"-----	44	46	46	45
Average break factor-----8/:	2464	2514	2558	2489
Yarn appearance (grey):				
22s-----grades:	C+	C+	C+	C
50s-----"-----	D+	C	C	C
Average yarn appearance index-----2/:	90	95	95	90
Color of 22s carded yarn:				
Grey:				
Reflectance-----Rd:	66.4	72.0	68.7	68.6
Yellowness-----+b:	11.9	12.2	12.3	11.8
Index-----10/:	91	103	98	96
Bleached:				
Reflectance-----Rd:	82.0	81.9	83.8	83.0
Yellowness-----+b:	4.2	3.2	3.5	3.7
Index-----10/:	93	104	100	98
Dyed after bleaching:				
Reflectance-----Rd:	27.4	27.3	26.4	27.2
Blueness-----+b:	24.6	25.8	26.0	25.0
Index-----10/:	98	103	105	100

For footnotes see page 72.

FOOTNOTES FOR TABLE 5

- 1/ Southeastern Area: Includes the cotton growing areas of Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama.

South Central Area: Includes states of Mississippi, Missouri, Arkansas, and Louisiana.

Southwestern Area: Includes state of Oklahoma, and all of Texas except District 6.

Western Area: Includes District 6 of Texas, New Mexico, Arizona and California.
- 2/ Average color of these samples was typical for the grade.
- 3/ Based on curvilinear scale for upland cotton adopted September 1950.
- 4/ Determined by the Causticaire method using the Micronaire instrument.
- 5/ Index of 100 equals a Pressley ratio of 3.19 which was the average of the 1954 upland cotton crop.
- 6/ Determined by the Shirley Analyzer method which includes both visible and invisible waste.
- 7/ Reported as percentage of moisture after conditioning at 92 percent relative humidity.
- 8/ Based on average yarn skein strength (number x strength) of the two numbers spun.
- 9/ Based on two numbers spun; index of average quality equals 100.
- 10/ Index for color of grey, bleached, and blue dyed yarn, derived from Rd and b Colorimeter measurements with average of Middling cotton at 100. For details consult AMS-245, June 1958.

Table 6.--Effect of Micronaire fineness values on fiber, spinning, and chemical finishing performance of 16 paired lots of upland cotton in the United States, crop of 1956

Item	Averages of 16 paired samples	
	Below average Micronaire value	Above average Micronaire value
RAW COTTON QUALITY		
Staple length-----32ds inch:	32.6	32.6
Fiber length (fibrograph):		
Upper half mean-----inches:	1.01	1.00
Mean length-----"	.79	.80
Uniformity ratio-----	78	80
Fiber fineness and maturity:		
Micronaire-----reading 1/:	3.8	4.6
Fineness (Causticaire)-----ug/inch 2/:	3.9	4.6
Maturity (")-----index 2/:	76	80
Fiber tensile strength (Pressley):		
1/8" Gauge-----index 3/:	96	95
Zero Gauge-----1,000 p.s.i.:	81	83
Nonlint content-----percent 4/:	3.9	4.0
Sugar content-----percent:	0.2	0.2
Acid-alkaline value-----pH units:	6.8	6.9
PROCESSING RESULTS		
Picker and card waste-----percent:	8.5	8.5
Neps per card web (per 100 sq. inches)	21	12
YARN QUALITY		
Yarn skein strength (grey):		
22s-----pounds:	116	113
Average break factor-----5/:	2348	2275
Yarn appearance (grey):		
Average yarn appearance index-----6/:	99	104
Color of 22s carded yarn: 7/		
Grey:		
Index-----7/:	99	97
Bleached:		
Index-----7/:	98	97
Dyed after bleaching:		
Index-----7/:	96	96

1/ Based on curvilinear scale for upland cotton adopted September 1950.
2/ Determined by the Causticaire method using the Micronaire instrument.
3/ Index of 100 equals a Pressley ratio of 3.19 which was the average of the 1954 upland cotton crop.
4/ Determined by the Shirley Analyzer method and includes both visible and invisible waste.
5/ Based on average yarn skein strength (number x strength) of the two numbers spun.
6/ Based on two numbers spun; index of average quality equals 100.
7/ Index for color of grey, bleached, and blue dyed yarn, derived from Rd and b Colorimeter measurements with average of Middling cotton at 100. For details of method consult USDA publication - AMS 245, June 1958.

